colordyne technologies

Colordyne 1600S COLOR PAGE PRINTER

OPERATOR MANUAL

Powered by memjet

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SAFETY PRECAUTIONS

THIS EQUIPMENT PRESENTS NO PROBLEM WHEN USED PROPERLY. HOWEVER, CERTAIN SAFETY RULES SHOULD BE OBSERVED WHEN OPERATING THE COLORDYNE 1600-S PRINTER.

BEFORE USING THE PRINTER, YOU SHOULD READ THIS MANUAL CAREFULLY AND FOLLOW THE RECOMMENDED PROCEDURES, SAFETY WARNINGS, AND INSTRUCTIONS:

- ✓ Keep hands, hair, and clothing clear of rollers and other moving parts.
- ✓ Avoid touching moving parts or materials while the machine is in use. Before clearing a jam, be sure machine mechanisms come to a stop.
- ✓ Always turn off the machine before making adjustments, cleaning the machine, or performing any maintenance covered in this manual.
- ✓ The power cord and power supply supplied with the machine should be plugged into a properly grounded, easily accessible wall outlet located near the machine. Failure to properly ground the machine can result in severe personal injury and/or fire.
- ✓ The power cord and wall plug is the primary means of disconnecting the machine from the power supply.
- ✓ DO NOT use an adapter plug on the line cord or wall outlet.
- ✓ DO NOT remove the ground pin from the line cord.
- ✓ DO NOT route the power cord over sharp edges or trap it between furniture.
- ✓ Avoid using wall outlets that are controlled by wall switches or shared with other equipment.
- ✓ Make sure there is no strain on the power cord caused by jamming between equipment, walls or furniture.
- ✓ DO NOT remove covers. Covers enclose hazardous parts that should only be accessed by a qualified service representative. Report any cover damage to your service representative.
- ✓ This machine requires periodic maintenance. Contact your authorized service representative for required service schedules.
- ✓ To prevent overheating, do not cover the vent openings.
- ✓ Use this equipment only for its intended purpose.

In addition, follow any specific occupational safety and health standards for your workplace or area.

This manual is intended solely for the use and information of Colordyne Technologies, LLC, its designated agents, customers, and their employees. The information in this guide was obtained from several different sources that are deemed reliable by all industry standards. To the best of our knowledge, that information is accurate in all respects. However, neither Colordyne Technologies, LLC nor any of its agents or employees shall be responsible for any inaccuracies contained herein.

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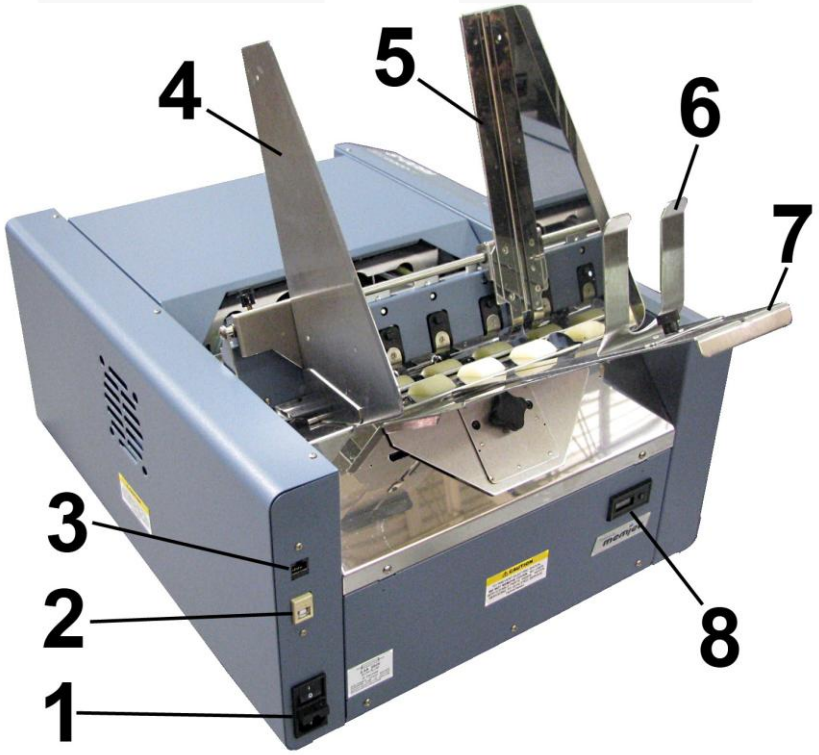
NOTES

SECTION 1 – *Getting Acquainted*

Front View

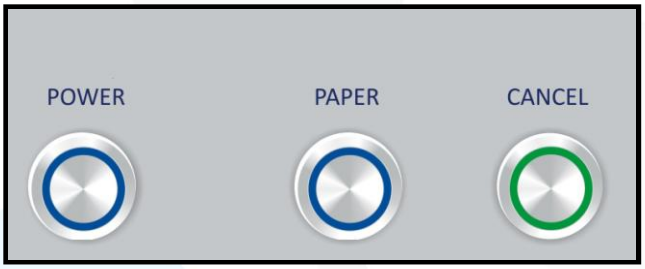
1.	**Cancel LED Button** – Press this switch to cancel the job being printed.
2.	**Paper LED Button** – Press to stop printing, press to restart printing. Press switch to continue printing.
3.	**ON/OFF LED Button** -- Use to turn power ON or OFF during idle time and maintenance.
4.	**Rear Guide –** Holds the media against the Front Plate.
5.	**Rear Guide Support –** Supports the paper/media.
6.	**Adjustable Media Guide –** Adjusts to hold the paper/media against the Envelope/Paper Register Guide.
7.	**Envelope/Paper Media Guide –** All printing is registered against this Guide. It has adjustable positions for envelopes and paper.
8.	**Top Cover –** Provides access to the Print Engine.
9.	**Front Cover –** Provides access to the Ink Tanks.



Rear View

1.	**Main Power Switch, Receptacle and Fuse –** Plug in power cord here. Switch turns main power ON/OFF. (Use Control Panel LED Power switch to turn off machine for cleaning and maintenance). Fuse protects the Printer's electronic circuits.
2.	**USB Port Connection –** The USB cable attaches to the Printer here.
3.	**Network Connection –** The network cable plugs in here.
4.	**Envelope/Paper Media Guide –** All printing is registered against this Guide. It has adjustable positions for envelopes and paper.
5.	**Adjustable Media Guide –** Adjusts to hold the paper/media against the Envelope/Paper Media Guide.
6.	**Rear Guide–** Holds the paper/media against the Front Plate.
7.	**Rear Guide Support –** Supports the paper/media.
8.	**Counter –** LCD displays number of pieces run for a given job. Reset button zeros Counter.

Control Panel Button/LED Indicators:



The Control Panel has 3 buttons with LED indicators.

POWER (ON/OFF) – Turns Printer power ON and OFF. Turn off power for cleaning and maintenance.

PAPER (STOP JOB/RESUME) – Stops Paper Feed or Resumes Printing.

- **Press to Stop Paper Feed Immediately.** Printer will clear media in Printer and stop.
- **Press to Resume Printing.** Restart printing after a paper feed error (such as a paper jam or running out of paper).

CANCEL (CANCEL JOB) – Cancels a Job.

- **Press to Cancel a Job.** Once the Printer has stopped, pressing this button clears job from Printer and Print Queue in Driver. **NOTE:** Cancelled Jobs must be reloaded before printing can resume.

PRINTER OPERATION INDICATORS – NORMAL			
PRINTER STATUS	**POWER (ON/OFF)**	**PAPER (STOP/RESUME)**	**CANCEL (CANCEL JOB)**
Power cord plugged in, Main Power Switch ON, Control Panel Power Switch OFF.	LED OFF	N/A – LED OFF	N/A – LED OFF
Unit Powered Up, No Job Loaded.	LED ON, steady	LED OFF Press and hold for 3 seconds to feed single piece at 6 inches/second.	N/A – LED OFF
Job Loading	LED ON, steady	LEDs flashing simultaneously ON/OFF once/second.	
Printing	LED ON, steady	LEDs flashing alternately ON/OFF once/second.	
Job Loaded, Printer Stopped.	LED ON, steady	LED ON, flashing ON/OFF once/second.	LED OFF.
Maintenance Running	LED ON, steady	LEDs flashing simultaneously ON/OFF once/second. Wait until Maintenance stops running.	

PRINTER ERROR INDICATORS			
PROBLEM	**POWER (ON/OFF)**	**PAPER (STOP/RESUME)**	**CANCEL (CANCEL JOB)**
Paper Feed Times Out/Out of Paper	LED ON, steady	LED ON, flashing about 3 times/second.	LED OFF
ACTION:	Press **PAPER** to pause job. Check/clear paper jams or reload feeder. If OK, press **PAPER** to resume printing. If not fixed, press **CANCEL** to cancel the job.		
Sensor(s) Covered	LED ON, steady	LED ON, steady	LED OFF
ACTION:	Press **PAPER** to pause job. Remove media covering Sensor or clean Sensor. If OK, press **PAPER** to resume printing. If not fixed, press **CANCEL** to cancel the job.		
Tilt Error	LED ON, steady	**LEDs flashing fast alternately ON/OFF about 3 times/second.**	
ACTION:	Press **PAPER** to stop feed. Check that Printer is on a stable, level surface. If OK, press **PAPER** to resume printing. If not fixed, press **CANCEL** to cancel the job.		
Ink Tank Missing	LED ON, steady	LED OFF	LED ON, steady.
ACTION:	Press **POWER** to turn off Printer. Install missing Ink Tank(s) (*see Replacing Ink Tanks in Maintenance*)		
Other Errors	LED ON, steady	**LEDs flashing fast simultaneously ON/OFF about 3 times/second.** .	
ACTION:	Press **PAPER** to stop feed. Try to determine and correct the problem. If OK, press **PAPER** to resume printing. If not fixed, press **CANCEL** to cancel the job.		

MORE TROUBLESHOOTING GUIDES ON PAGE 48

SECTION 2 – *Installing the Printer*

Contents of Packaging

1. Colordyne 1600-S Printer
2. Ink Tanks – Cyan, Magenta, Yellow, Black, Black
3. Printhead Cartridge
4. Media Side Guides: Registration (Fixed) and Adjustable – mounting screws attached to Printer
5. Rear Media Support Guide – thumbscrew attached to Printer
6. Media Support Wedges: Narrow and Wide – mounting hardware attached to Rear Media Support Guide
7. Envelope Printing Attachment Use when printing large volume envelope jobs)
8. AC Power Cord
9. USB Cable
10. Operator Manual
11. Driver Software CD

Before using the Colordyne 1600-S Printer the following must be done:

- Choose a location for the Printer
- Unpack and assemble the Printer
- Hydrate the Printhead Cartridge
- Remove the Service Station Transport Tab
- Plug in the Printer and connect it to the computer
- Install the Printer Driver
- Install the Ink Tanks
- Install the Printhead
- Set up the feed on the Printer

Choose a Location

The Colordyne 1600-S should be placed on a sturdy level worktable or cabinet at least 9 inches from any walls. Protect the Colordyne 1600-S from excessive heat, dust, and moisture – avoid placing it in direct sunlight.

Unpacking and Setup

Remove the Printer and its parts from the carton. Remove all packing tape. The screws that attach the various parts of the Guides to the Printer are under the tape in their respective positions.

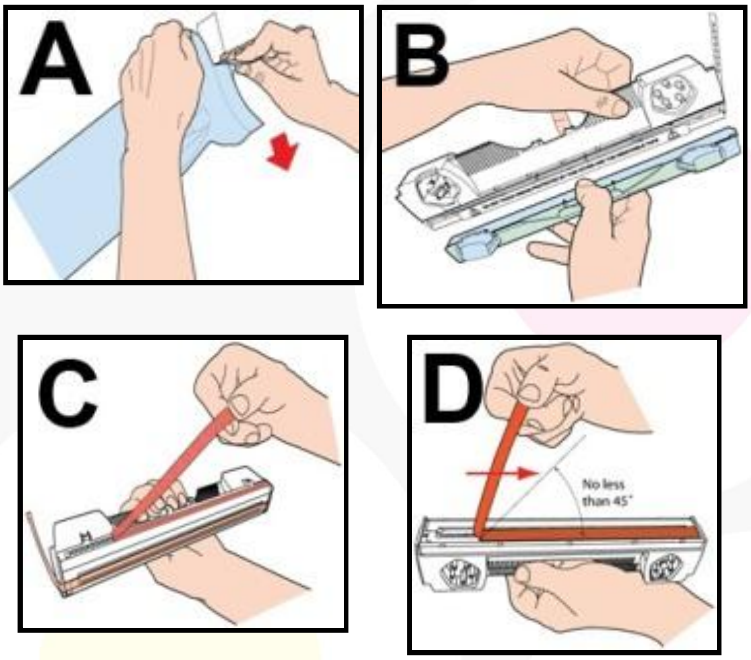
Hydrating the Printhead Cartridge

Before you begin assembling the Printer, it is a good idea to hydrate the Printhead Cartridge.

CAUTION

- **Use electrostatic discharge (ESD) protection when handling.**
- **Hold the Printhead Cartridge by the handles ONLY.**
- **DO NOT touch the ink couplings, nozzle surface or electrical contacts.**
- **DO NOT unpack the Printhead Cartridge until the Printer is ready for installation. Once unwrapped, delay in installing the Printhead can compromise print quality due to dehydration.**
- **DO NOT place an unwrapped Printhead on any surface before installing. Protect the Printhead from scratches, dust, fibers, dirt and other contaminants at all times.**

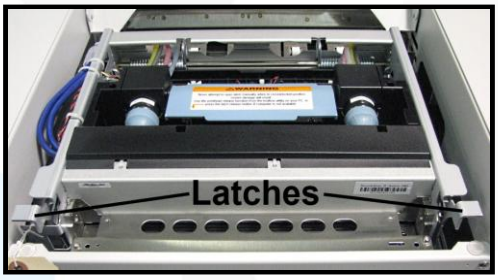
1. **Carefully remove the Printhead Cartridge from the foil packaging**. [**A] Tear at notch or cut end with scissors.** **[B] Remove the protective plastic cover.** Hold the Printhead by the handle and unclip the cover from the Printhead. **[C] Remove protective strip from the Printhead Electrical Contacts**. **DO NOT allow removed strip to touch the electrical contacts.** **[D] Remove protective strip from the Printhead Nozzles.** Hold the Printhead by the handle with one hand. Pull the strip tab with the other hand and slowly peel the strip from the Printhead**. DO NOT pull the strip at any angle less than 45° with the Printhead surface. DO NOT allow removed strip to touch the Printhead Nozzles.**



2. Pour just enough distilled water into the orange plastic cover you removed in Step 1B to moisten the bottom strip inside. Carefully reinstall the Printhead back into the plastic cover. Set the Printhead aside for installation later. This rehydrates Printhead and allows easier priming once it is installed in the Printer.

Remove Service Station Transport Tab

1. Open the Top Cover.
2. Release the two latches (one on either side of the Print Engine). Open the top half of the Print Engine by lifting both levers at the same time.



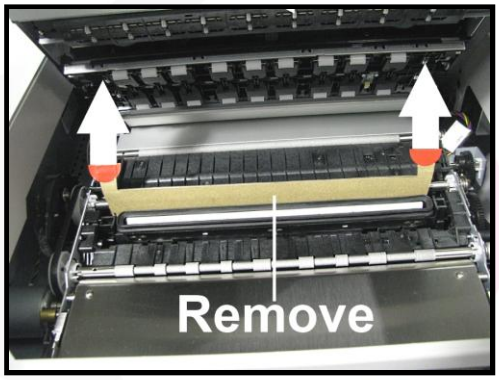
CAUTION

OPERATE AND HOLD ONTO BOTH LATCHES WHEN OPENING AND CLOSING THE PRINTHEAD ASSEMBLY TO PREVENT DAMAGE.

DO NOT ALLOW THE ASSEMBLY TO DROP BY ITSELF WHEN CLOSING.

TO PREVENT DAMAGE TO THE INK LINES, A STOP LIMITS RAISING THE ASSEMBLY MORE THAN 60°.

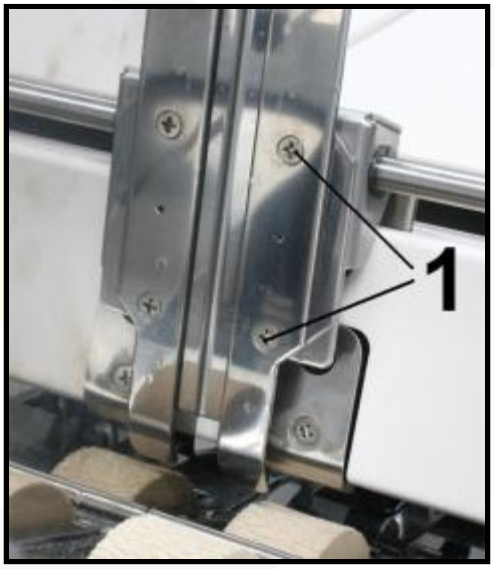
3. Pull up on the two tabs to remove the cardboard Transport Tab up from the Service Station.



4. Carefully close and relatch the Upper Print Engine. Then close the Top Cover.

Assembling the Printer

Begin by installing the Adjustable Side Guide with two screws **[1]**:



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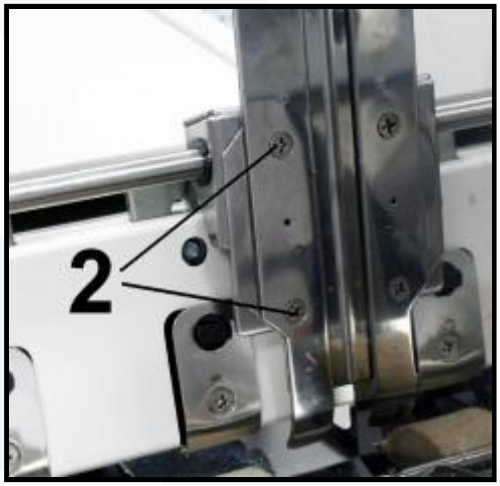
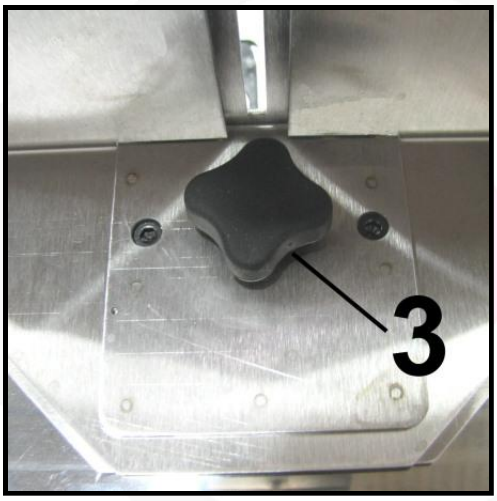
Next install the Envelope/Paper Side Guide using the two screws **[2]** provided.



Attach the Rear Paper Support using the knob **[3]** provided.

NOTE: The two outside holes fit over the socket head screws.

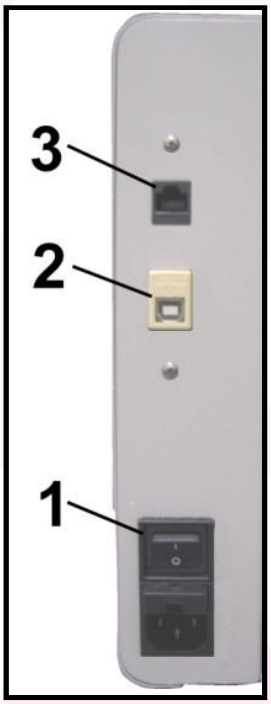


Install the Back Guide using the thumbscrew and washer **[4]** provided. The washer goes between the screw and the Rear Paper Support.

Connecting the Colordyne 1600-S

Plugging in the Printer

Connect the power cord to the receptacle **[1]** at the rear of the Printer. The internal power supply in the Printer is rated 115 to 240VAC, 50/60 Hz.



CAUTION

DO NOT USE AN ADAPTER PLUG OR EXTENSION CORD TO CONNECT THE PRINTER TO THE WALL RECEPTACLE.

DO NOT USE OUTLETS CONTROLLED BY WALL SWITCHES.

DO NOT USE AN OUTLET THAT SHARES THE SAME CIRCUIT WITH LARGE ELECTRICAL MACHINES OR APPLIANCES.

Connecting to the Computer

The Printer connects to the computer through the USB port **[2]**.
A Network port **[3]** is provided when operating in a network environment. See "Network Connection Setup" in the "Using the Printer Toolbox" section.

Turning Power ON and OFF

Powering Up Printer:

1. **Press the Main Power Switch on the Rear Panel.**
2. **Press the Power Button on the Control Panel.**

Powering Down Printer:

CAUTION

WHENEVER POWERING DOWN UNIT, ALWAYS:

1. **PRESS THE POWER BUTTON ON THE CONTROL PANEL.**
2. **WAIT FOR THE PRINTER TO STOP PROCESSING.**
3. **THEN PRESS THE MAIN POWER SWITCH ON THE REAR PANEL.**

Install the Printer Driver

For the Printer software to operate properly check that the computer system meets these **minimum requirements:**

- Windows XP, Windows Vista, Windows 7. (Supports 32 and 64 bit systems)
- You must have administrative privileges on the system.
- Microsoft Internet Explorer 6.0 or higher.
- Java version 6 or higher
- USB 2.0 port (ports will be identified as "USB2" or "Enhanced" in the Device Manager.)
- Microsoft .NET Framework 3.5 installed **(Even if you have a higher version installed, version 3.5 must also be installed.)**

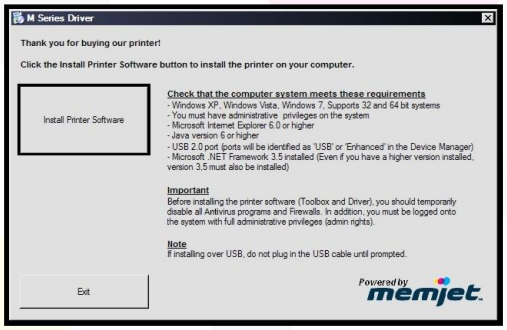
IMPORTANT: Before installing the Printer software (Toolbox and Driver), you should **temporarily disable all antivirus programs and firewalls**. In addition, you must be logged onto the system with full administrative privileges (admin rights).

NOTE: If installing over USB, **do not plug in the USB cable until prompted**.

1. Make sure the Printer is plugged in and turned OFF. **Disconnect the USB connection if you have plugged it in already.** Install the disk supplied with the Printer in your CD drive. When the AutoPlay Window opens, click "**Run Setup.exe**" to start.

AutoPlay
DVD RW Drive (E:)
Always do this for software and games:
Install or run program from your media
Run setup.exe
Publisher not specified
General options
Open folder to view files
using Windows Explorer
View more AutoPlay options in Control Panel

2. The "Install Printer Software" window opens on the computer screen. Make sure the computer system meets the **minimum requirements** and you have followed the other instructions on the screen. Click "**Install Printer Software**".


M Series Driver
Thank you for buying our printer!
Click the Install Printer Software button to install the printer on your computer.
Install Printer Software
Check that the computer system meets these requirements
- Windows XP, Windows Vista, Windows 7. Supports 32 and 64 bit systems
- You must have administrative privileges on the system
- Microsoft Internet Explorer 6.0 or higher
- Java version 6 or higher
- USB 2.0 port (ports will be identified as 'USB' or 'Enhanced' in the Device Manager)
- Microsoft .NET Framework 3.5 installed (Even if you have a higher version installed, version 3.5 must also be installed)
Important
Before installing the printer software (Toolbox and Driver), you should temporarily disable all Antivirus programs and Firewalls. In addition, you must be logged onto the system with full administrative privileges (admin rights).
Note
If installing over USB, do not plug in the USB cable until prompted.
Exit
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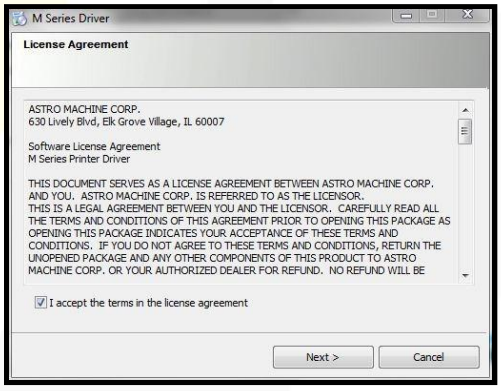
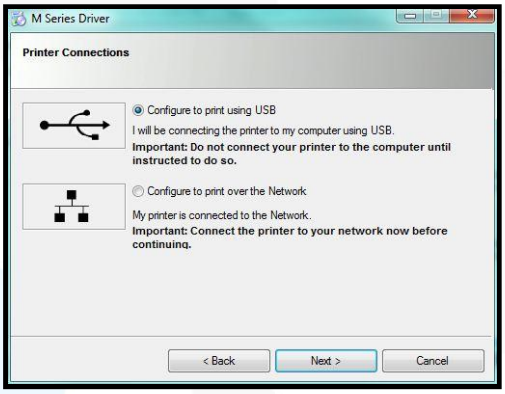
3. The **License Agreement** window opens. Carefully read the "End User Agreement". If you agree to the terms, check "I accept…" then click **Next>**.


M Series Driver
License Agreement
ASTRO MACHINE CORP.
630 Lively Blvd, Elk Grove Village, IL 60007
Software License Agreement
M Series Printer Driver
THIS DOCUMENT SERVES AS A LICENSE AGREEMENT BETWEEN ASTRO MACHINE CORP. AND YOU. ASTRO MACHINE CORP. IS REFERRED TO AS THE LICENSOR. THIS IS A LEGAL AGREEMENT BETWEEN YOU AND THE LICENSOR. CAREFULLY READ ALL THE TERMS AND CONDITIONS OF THIS AGREEMENT PRIOR TO OPENING THIS PACKAGE AS OPENING THIS PACKAGE INDICATES YOUR ACCEPTANCE OF THESE TERMS AND CONDITIONS. IF YOU DO NOT AGREE TO THESE TERMS AND CONDITIONS, RETURN THE UNOPENED PACKAGE AND ANY OTHER COMPONENTS OF THIS PRODUCT TO ASTRO MACHINE CORP. OR YOUR AUTHORIZED DEALER FOR REFUND. NO REFUND WILL BE
I accept the terms in the license agreement
Next >
Cancel

4. After a few moments the "Printer Connections" window opens. Click "Configure to print using USB". Then click **Next>**.


M Series Driver
Printer Connections
Configure to print using USB
I will be connecting the printer to my computer using USB.
Important: Do not connect your printer to the computer until instructed to do so.
Configure to print over the Network
My printer is connected to the Network.
Important: Connect the printer to your network now before continuing.
< Back
Next >
Cancel

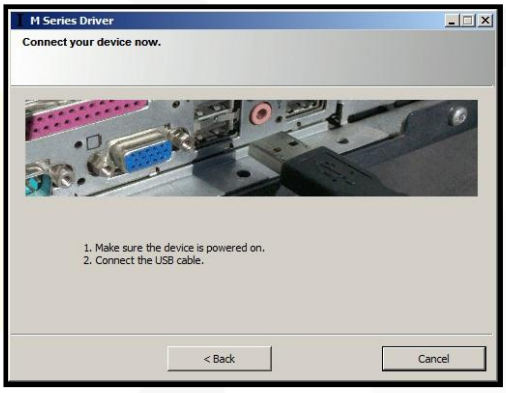
5. After a few moments the "M Series Driver" window opens followed by the "Would you like to install this device software?" window. Click "**Install**" and the driver software will load from the disk.

Windows Security
Would you like to install this device software?
Name: AstroMachine Printers
Publisher: Memjet Labels Inc
Always trust software from "Memjet Labels Inc".
Install
Don't Install
You should only install driver software from publishers you trust. How can I decide which device software is safe to install?

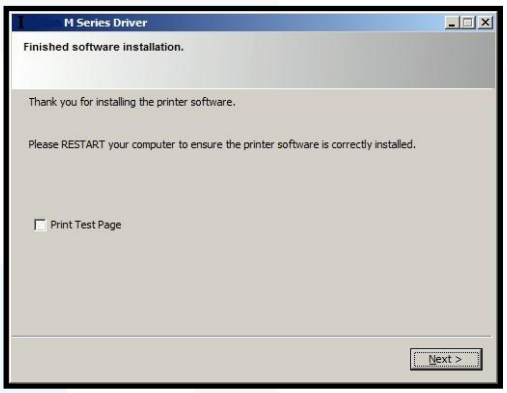
6. The software will start to download and a second "Would You Like to Install This Device Software" opens. Click **Install**.

Windows Security
Would you like to install this device software?
Name: AstroMachine Universal Serial Bus contro...
Publisher: Memjet Labels Inc
Always trust software from "Memjet Labels Inc".
Install
Don't Install
You should only install driver software from publishers you trust. How can I decide which device software is safe to install?

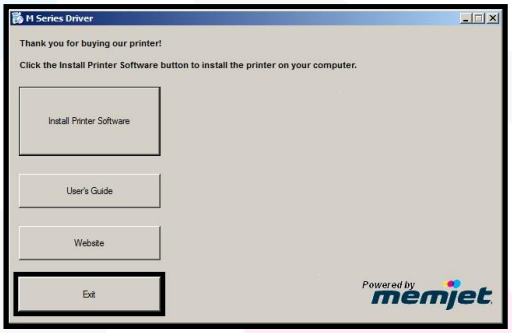
7. The "**Connect Device Now**" window opens. Switch the Printer on and connect the USB cable. **Don't click on either button.** The software will then finish installing.



8. The "**Finished software installation**" window opens. Do not print a test page since printer is not set up yet. Do not check the Print Test Page. Click **Next>**.


M Series Driver
Finished software installation.
Thank you for installing the printer software.
Please RESTART your computer to ensure the printer software is correctly installed.
Print Test Page
Next >

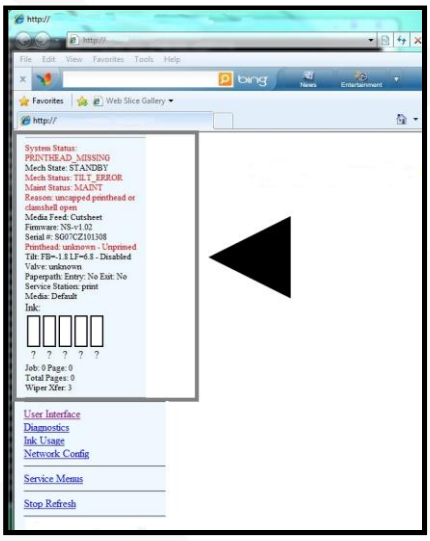
9. The M Series Driver welcome window returns. Note that you can click on the **User's Guide** for installation, document set up and printer maintenance, cleaning and troubleshooting information. If you are connected to the Internet you can click **Website**. Click **Exit** to close CD.
10. Restart the computer to complete the installation.


M Series Driver
Thank you for buying our printer!
Click the Install Printer Software button to install the printer on your computer.
Install Printer Software
User's Guide
Website
Exit
Powered by memjet

Install the Ink Tanks

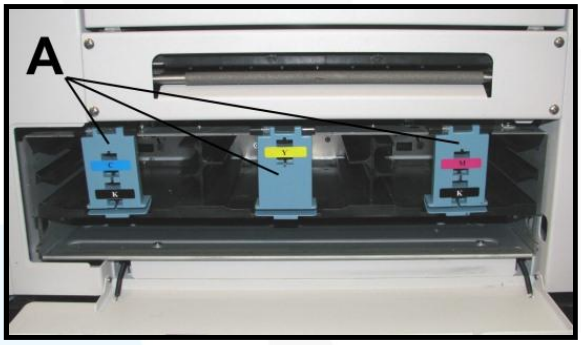
M Series Printers use a single Printhead Cartridge and five Ink Tanks (two Black, one Cyan, one Magenta, and one Yellow). Install the Ink Tanks as follows:

1. **Open the Printer Toolbox.** Go to All Programs, open the Colordyne Folder and open the Toolbox. On the Opening Screen you will see System Status information in the upper left corner.

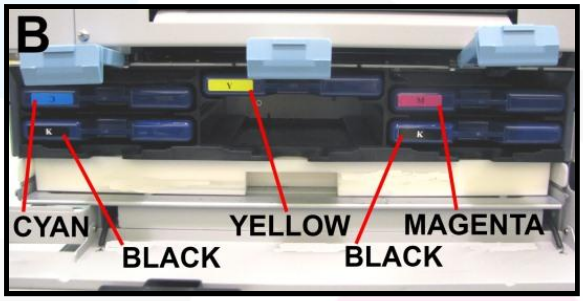


2. Open the Front Cover (*hinged at bottom*). Open the three Latches **[A]**.

3. Remove the new Tank(s) from packaging.

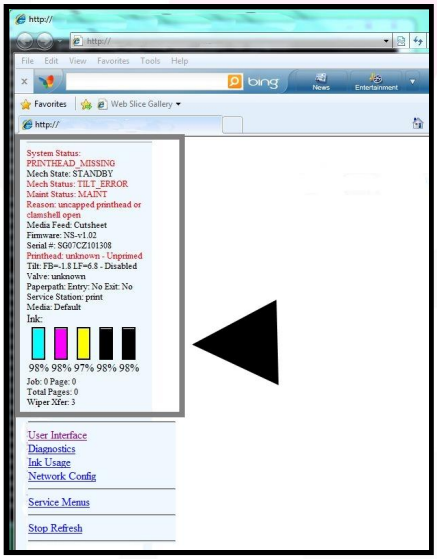


4. Slide the new Tanks (label up) into their appropriate color slots **[B]**.
INSTALLATION TIP: Make sure the Tanks seat properly. Insert the Tank into the appropriate Ink Station, then pull the Tank back about an inch and push forward firmly to insure that the Ink Nozzles penetrate the seals on the Tanks.



5. Watch the Toolbox screen on your computer; you will see the ink colors fill in as the Tanks are installed. If the ink color does not fill in after a few seconds, reinstall the Tank.

6. Close the three Latches. Close the Front Cover.



WARNING!

The ink in the Ink Tanks may be harmful if swallowed. Keep new and used Tanks out or reach of children. Discard empty tanks immediately.

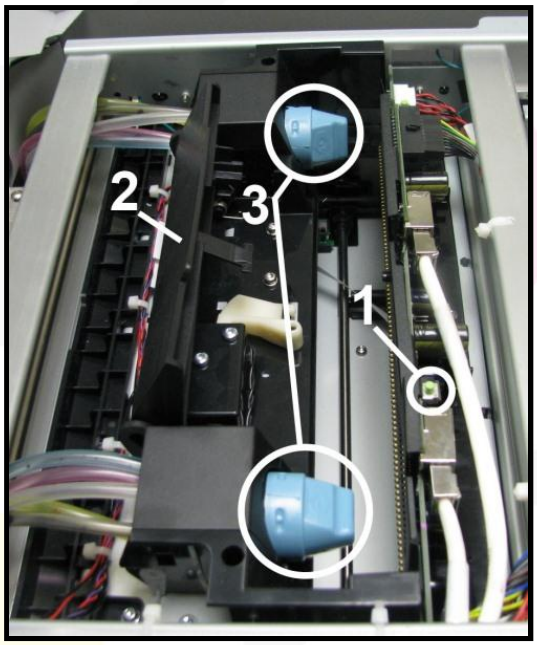
Install the Printhead Cartridge

The Printhead Cartridge is a delicate precision device. Handle with extreme care to avoid damage and issues that could degrade print quality.

CAUTION

- **Use electrostatic discharge (ESD) protection when handling.**
- **Hold the Printhead Cartridge by the handles ONLY.**
- **DO NOT touch the ink couplings, nozzle surface or electrical contacts.**
- **DO NOT unpack the Printhead Cartridge until the Printer is ready for installation. Once unwrapped, delay in installing the Printhead can compromise print quality due to dehydration.**
- **DO NOT place an unwrapped Printhead on any surface before installing. Protect the Printhead from scratches, dust, fibers, dirt and other contaminants at all times.**

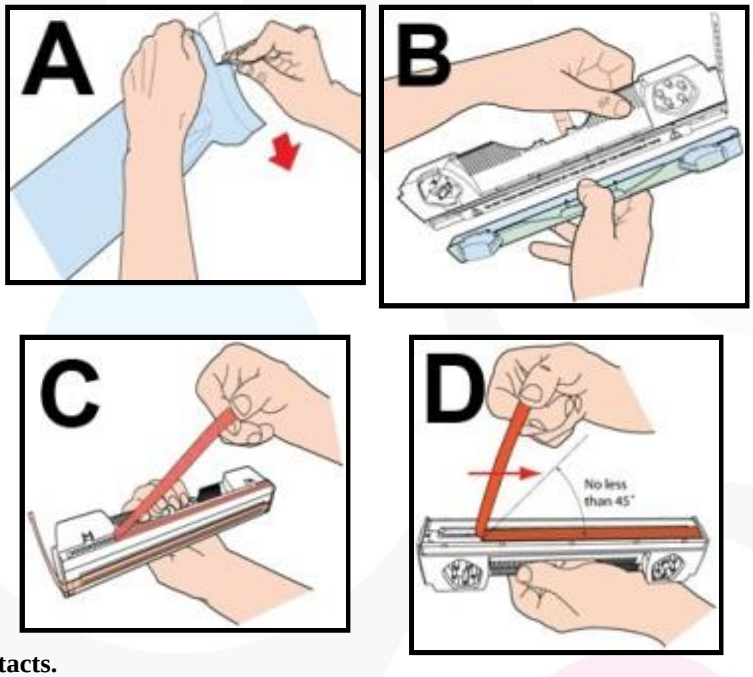
1. With the Printer power ON, open the Top Cover. Press the Printhead Cover Release Button **[1]**. The Printer will run a routine, then the Cover will pop open **[2]**.
   NOTE: Remove the Cap Protectors on the Ink Nozzles [3]. Be sure to open the Cover fully to retract the Ink Nozzles.



CAUTION

DO NOT PRY OR MANUALLY LIFT THE PRINTHEAD COVER OR THE COVER MAY BREAK. ONLY OPEN THE COVER USING THE RELEASE BUTTONS ON THE PRINTER OR THE PRINTHEAD RELEASE COMMANDS IN THE SERVICES TAB OR M SERIES TOOLBOX.

2. Take the Printhead Cartridge you hydrated and set aside earlier, remove the orange cover and proceed to **Step 3**. Otherwise, follow the Steps below:
Carefully remove the Printhead Cartridge from the foil packaging. [**A] Tear at notch or cut end with scissors.**
[B] Remove the protective plastic cover. Hold the Printhead by the handle and unclip the cover from the Printhead.
[C] Remove protective strip from the Printhead Electrical Contacts. **DO NOT allow removed strip to touch the electrical contacts.**



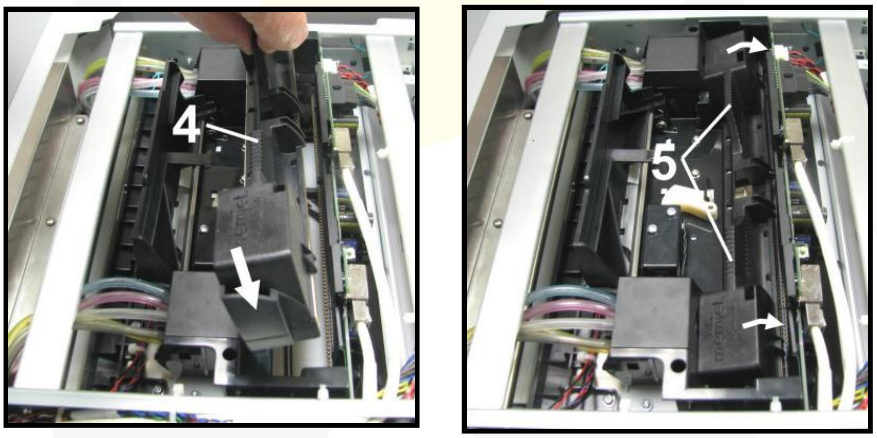
[D] Remove protective strip from the Printhead Nozzles. Hold the Printhead by the handle with one hand. Pull the strip tab with the other hand and slowly peel the strip from the Printhead**. DO NOT pull the strip at any angle less than 45° with the Printhead surface. DO NOT allow removed strip to touch the Printhead Nozzles.**

IMPORTANT! Pour just enough distilled water into the orange plastic cover you removed in Step 1B to moisten the bottom strip. Carefully reinstall the Printhead back into the plastic cover. Set the Printhead aside for 15 to 20 minutes. This rehydrates Printhead and allows easier priming once it is installed in the Printer.

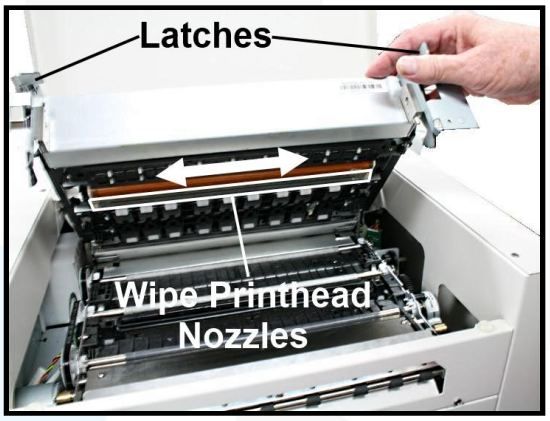
WARNING!

TO AVOID ELECTRICAL SHOCK OR SHORTING:
Before installing Printhead, make sure nozzles are hydrated and contacts are DRY!

3. Carefully insert the Cartridge into the compartment at an angle **[4]**, with the Printhead surface facing down and the Ink Nozzles facing the Ink Hoses. Once it is seated, gently tilt the Cartridge back until it snaps into an upright position **[5]**. **DO NOT FORCE the Cartridge into position.**



4. **Wet the Printhead Surface. This ensures that the Printhead will prime correctly.** Open the Top Cover. Release and lift up the two latches **at the same time** to raise the Printhead Assembly. **Moisten the Printhead nozzles using distilled water and a damp, lint-free cloth, wiping end to end. (Gray strip located below orange strip.) Close and relatch the Printhead Assembly.**



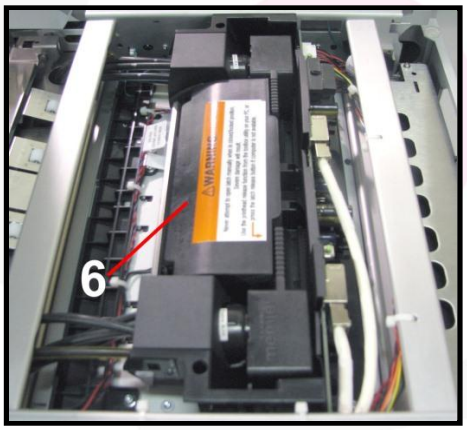
CAUTION

OPERATE AND HOLD ONTO BOTH LATCHES WHEN OPENING AND CLOSING THE PRINTHEAD ASSEMBLY TO PREVENT DAMAGE.

DO NOT ALLOW THE ASSEMBLY TO DROP BY ITSELF WHEN CLOSING.

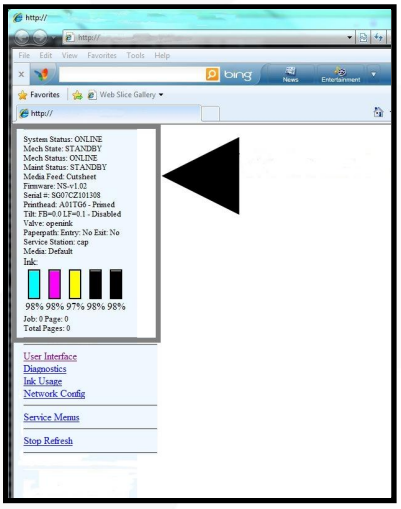
TO PREVENT DAMAGE TO THE INK LINES, A STOP LIMITS RAISING THE ASSEMBLY MORE THAN 60°.

5. Close the Printhead Cover **[6]**. The Printer will run a start-up routine and prime ink into the Printhead. This may take a few minutes. Make sure that ink is flowing through the ink hoses.



6. Watch the Toolbox screen on your computer again. Notice that some of the information is in red. As the Printer circulates ink and primes the system these fields should all turn black.

7. When the Printer stops processing and all the fields in System Status are black, the Printer is ready for use. Close the Top Cover.



NOTE: The Printer may take up to 12 minutes to set itself up during initial startup. This is normal. The machine will emit a number of chirps, whirrs and other noises as it circulates ink and runs systems.

Installing Envelope Printing Attachment

Use this attachment if you are primarily printing envelopes or running large batches of envelopes. The attachment flattens the envelope flap for better print consistency.

1. Open the Top Cover. Press the Printhead Latch Cover Release Button (or click the Printhead Release from the Services Tab or the User Interface screen in the Toolbox.) The Printer pumps any ink in the system back into the Tanks. Wait for the Printhead Latch Cover to open.

2. Make sure the Printhead Latch Cover is fully opened to retract the ink lines. Tilt the Printhead Cartridge back toward the ink lines and lift it up slightly. This will keep the printing surface out of the way during installation.

3. Open the Printhead Clamshell.

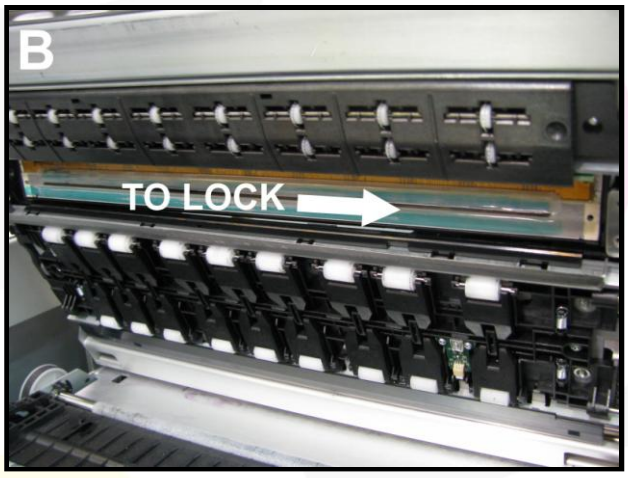
4. **[A]** Slide the Envelope Printing Attachment up behind the metal support.

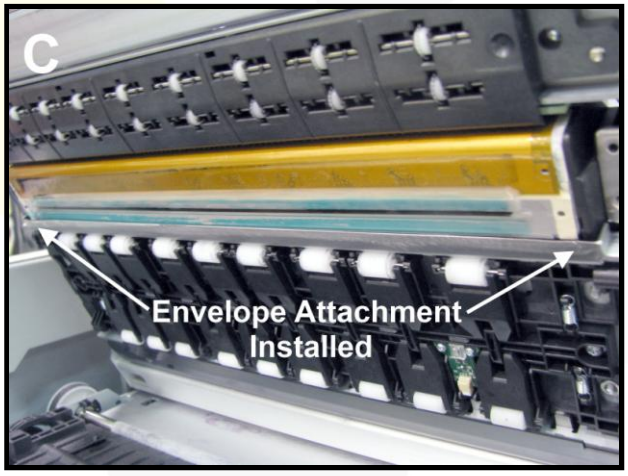
   [B] Push the Attachment to the right side of the Printer to lock the Attachment in place.

   [C] While the Printhead Clamshell is still open, snap the Printhead Cartridge back into place. **Make sure the Attachment is aligned with the Printhead Cartridge as shown.**

5. Wipe the Printhead Nozzles end to end using distilled water and a damp lint-free cloth. Close and relatch the Printhead Clamshell. Close the Printhead Latch Cover and Top Cover. Reprime the system.

NOTE: Remove the Attachment if you are going to primarily run flat sheets.

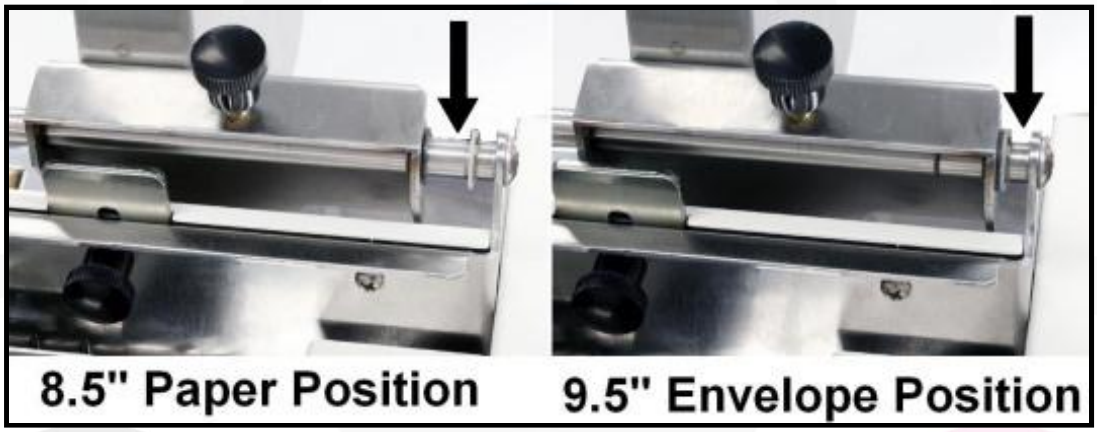




Setting up the Feed

The Colordyne 1600-S Printer is equipped with four Sheet Separators, two Side Guides and a Rear Media Guide. The Sheet Separators are adjusted individually as follows:

1. Move the Left-hand Side Guide into position. This Guide has two positions. The position closest to the Side Frame is for 9.5" media and the position closest to the center of the Printer is for printing 8.5" wide media edge to edge.

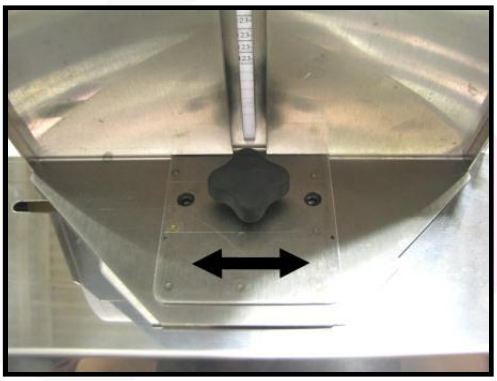


2. Loosen the locking screws located behind the Sheet Separators and raise the Paper Separators, then tighten the locking screws to hold the Separators in the "Up" position.

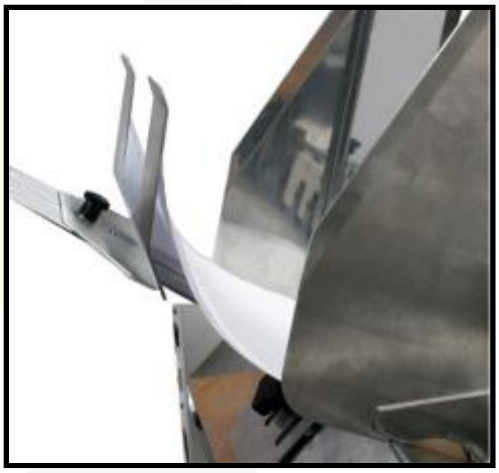
3. Place a single piece of the media to be run under the Separators. Always place the media against the Left-hand Paper Guide. Loosen the separator locking screw and allow the Paper Separator to settle onto the media. Then tighten the locking screw. Repeat for each Paper Separator.

4. Adjust the Right-hand Side Guide so that it is about 1/32-inch from the sides of the media. Tighten the locking knob on the Side Guide. Place a stack of media in the machine. Press and hold the Paper key to feed one piece through the Separator**.**
NOTE: To prevent misfeeds and tearing, keep the Right hand Side Guide at least 1/8" from the Side Frame.

5. Adjust the Rear Support Guide by using the knob to slide the Guide right and left. If you experience feeding problems, slide the Rear Support Guide right or left keep the media aligned with the Media Guides.



6. Adjust the Rear Media Guide by loosening the locking screw and moving the Guide to raise the media approximately 2" above the Feed Table for paper and about ½" for envelopes.



NOTE: The amount of media that can be stacked on the Printer is determined by the weight of the material. The Feeder may not feed larger and heavier media when the stack is full. If this is the case, reduce the amount of media in the stack until the Feeder functions properly.

SECTION 3 – *Operating the Colordyne 1600-S*

Once the Printer Driver is installed on your computer and the Printhead is primed, you are ready to start printing. Set up your job and send it to the Printer. The Printer will start and print.

This rest of this section is divided into two parts:

1. How to set up a job to print from Microsoft Word.
2. Driver properties and the various options available when you run a job.

The Printer Driver that you installed on your computer in Section 2 should be set as the default driver. It will then be accessible through your applications such as Microsoft Word. Other types of applications and database management software will work in a similar manner when using this Driver. This Section further assumes that you have set up the feed and the Printer is connected to your computer.

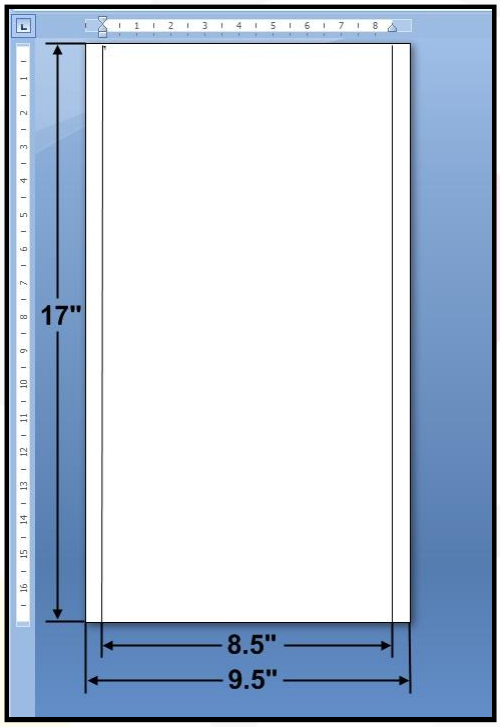
Setting Up a Job in MS Word

When setting up a job to print in MS Word or any other application, first determine the print area of the Printer and the paper sizes it can handle.

Maximum print area for the Printer:
8.5" wide x 17" long.

Maximum paper size Printer can feed:
9.5" wide x 17" long. (*See diagram at right.*)

Minimum paper size Printer can feed:
3" wide x 4.2" long.

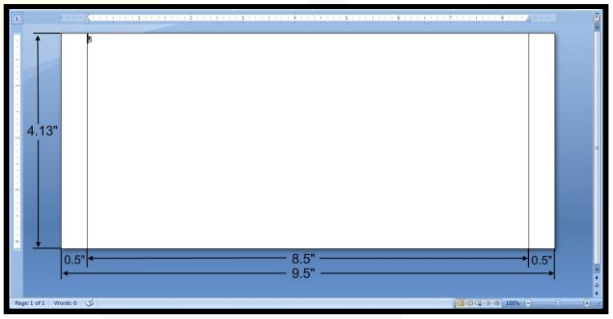


To set up the maximum print area for a 9.5" x 17" document, set the paper size to 9.5" wide by 17" long in the "Custom Paper" setting. Set top and bottom margins to 0" or any margin you require. Set right-hand and left hand margins to 0.5". You can now layout the job and print the maximum printing area.

For other page sizes such as 8.5" x 11" (standard letter) or 8.5" x 14" (legal size), set the paper size to the exact size and set the margins as needed.

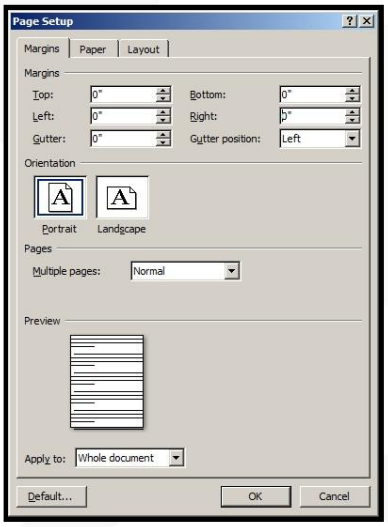
NOTE: Set the Left-hand Side Guide to the proper 9.5" position when running 9.5" wide media. Set the Guide to the 8.5" position when running 8.5" <u>or narrower</u> media.

Envelopes: Select an envelope (example uses a #10 envelope) from "Page Setup" in MS Word. Feed the envelope by the 9.5" inch width, (the fastest way to run envelopes, especially if you are addressing them with a Mail Merge). Set the top and bottom margins to 0", the left and right margins at 0.5" as shown.

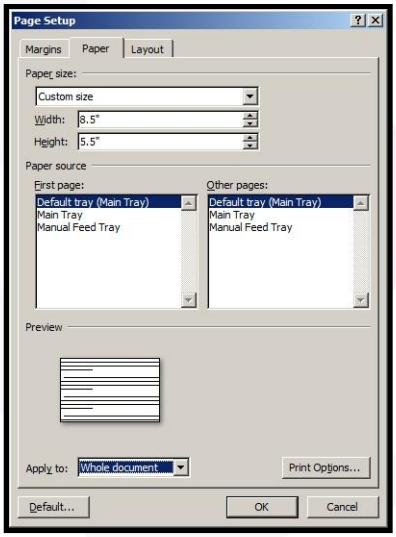


Printing a Typical Job on 8.5-inch by 5.5-inch Paper

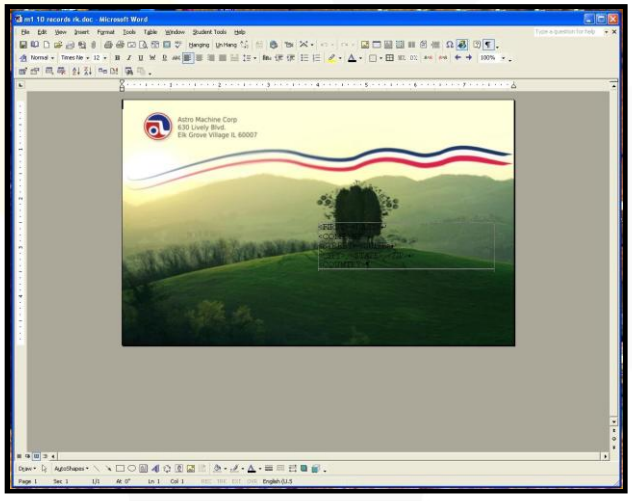
The Colordyne 1600-S can print edge-to-edge on an 8.5" x 5.5" document. Follow these steps to set up a job:



1. Go to **File**, then **Page Setup** and select 0" margins.



2. Select the **Paper** tab, select Paper Size "Custom size" then set the paper Width to 8.5" and the paper Height to 5.5". Then click **OK**.



3. The screen at right is an example of a job to be printed. Once the job is ready for printing, select "Print" from the file menu and print the job.

For more information about changes that can be made in the Driver please see the Printer Driver section.

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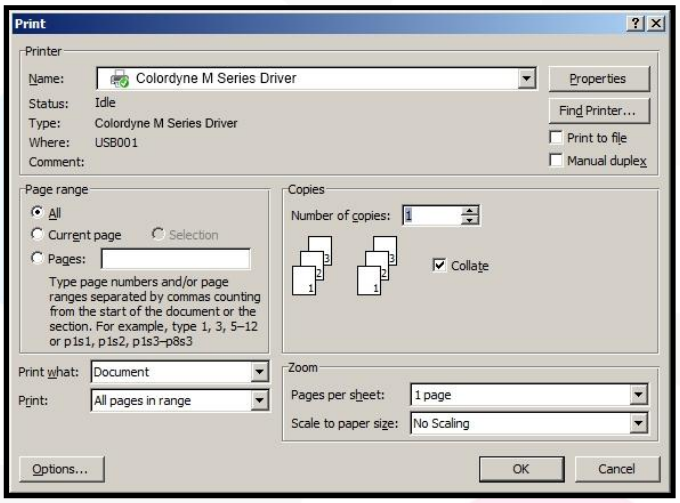
Printer Driver Properties

The Printer Driver for the Colordyne 1600-S works the same as any other Printer Driver for Windows. It does have some enhancements to help you maximize the ability of the Printer to print variable addressed pieces quickly and efficiently.

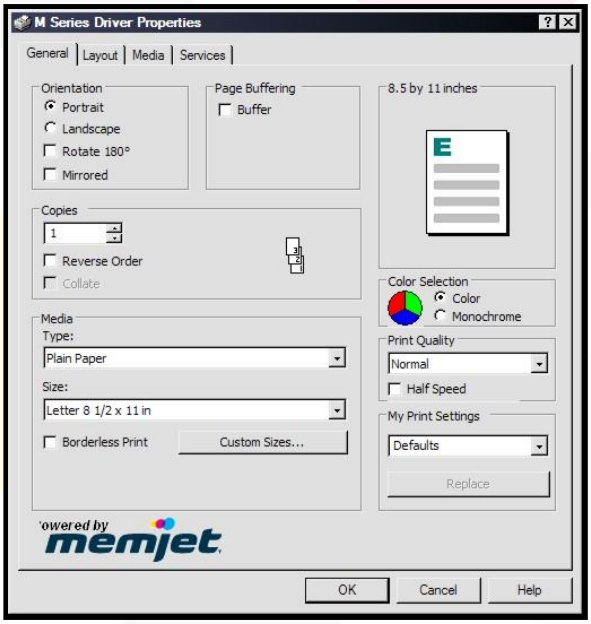
Windows XP, Vista, Windows 7: Once the job is set up, click **File**, then **Print**. The window on the right will open. Make sure the M Series Driver is the selected Printer. Clicking on **Properties** opens the "Properties" window.



General Tab

The **General** tab lets you select:

- **Orientation** – Portrait (Default), Landscape, Rotate 180° and Mirrored.
- **Page Buffering** – Allows the entire print job to load before printing starts.
- **Copies** – Lets you choose the number of copies to be printed.



NOTE: Reverse Order is set as the default. This means the job starts printing from the last page. The entire job will load into the Printer before printing starts. Large jobs may take some time to load. Unchecking the box prints the job starting with the first page. Printing starts as soon as first page loads.

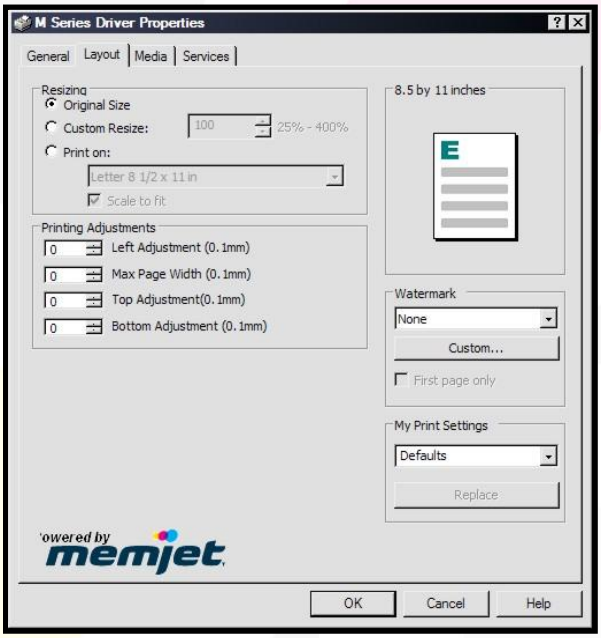
- **Media** – Choose a type of media or different size media than the document was originally designed for. **Type:** Chart at right lists the media profiles associated with the type of media chosen. **Sizes:** 21 sizes are available. The document is automatically resized to fit the new media. You can also create and save a Custom Size to suit your needs. **NOTE: Do not exceed maximum paper size for the Printer.**

MEDIA TYPE	MEDIA PROFILE
Plain Paper Bright White Paper Transparency Film	Plain Paper
Premium Photo Paper Glossy Photo Paper Glossy Label Glossy	Premium Glossy Label
Photo Greeting Cards Glossy Photo Paper Semi-gloss Postcards Glossy Brochure Glossy	Glossy Label
Photo Paper Matte Label Matte Photo Greeting Cards Matte Brochure Matte Premium Inkjet Paper Presentation Paper Other Inkjet Paper Postcards Matte	Matte Coated Label

- **Color Selection –** Set Printing for Color or Monochrome.
- **Print Quality** – Select **Normal** or **Best**. **Normal** is 1600 x 800 dpi, checking the Half Speed box slows printing for higher quality on glossy stock. **Best** setting is 1600 x 1600 dpi, for use when high quality images are required.
- **My Print Settings** – Access your saved custom print settings for various jobs.

Layout Tab

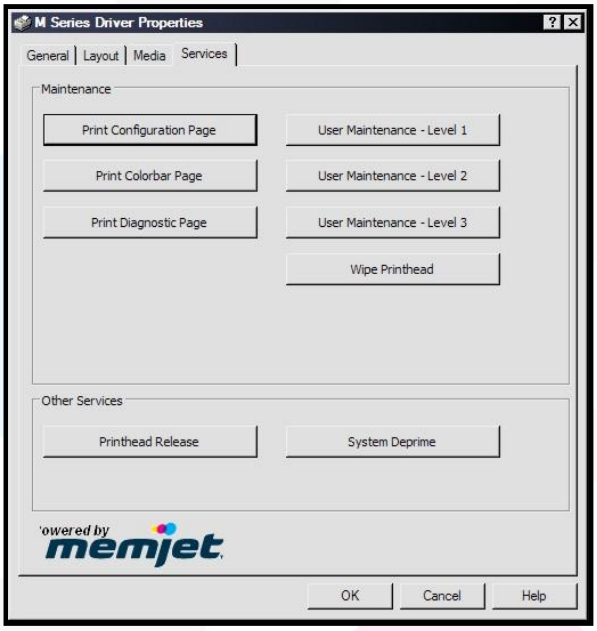
Layout allows you change how the document prints without changing the original document.



- **Resizing** – Lets you specify the **Original Size** or **Custom Resize:** lets you resize the original as a % of normal size. The Printer will print the document in the size you selected regardless of the size of the paper selected. **Print on:** lets you specify the particular size of paper that you want to print on regardless of the size of the original document. Checking "Scale to Fit" automatically resizes the document to fit on the new page size.
- **Printing Adjustments** – Allows you to make minor positioning changes to the print area in relation to the media if needed.
  NOTE: Only works on jobs using less than the full print area (less than 8.5" wide).
- **Watermark** – Prints a light background watermark in the paper while printing the original document. When this option is selected the "First page only" option prints the watermark on the first page, but not subsequent pages. Unchecking prints the watermark on all pages. The Custom button lets you create a new watermark or edit an existing watermark, including font selection, color, size and printing angle.
- **My Print Settings** – Access your saved custom print settings for various jobs.

Services Tab

Services allows you to:



- **Print Configuration Page** – Prints out the current configuration of the Printer including current Firmware Version, Network Connection, printer Serial Number and more.
- **Print Colorbar Page** – Prints type and color bands to check print quality.
- **Print Diagnostic Page** – Shows basic Printer information, memory, Network Settings, Event Log and RAM partitions.
- **User Maintenance**, Levels 1 to 3
  Level 1 – Circulates ink, wipes and cleans the Printhead Cartridge.
  Level 2 – Runs cleaning and wiping routine twice for better flushing and cleaning.
  Level 3 – Runs the cleaning routine multiple times for the most thorough flushing and cleaning of the Printhead.

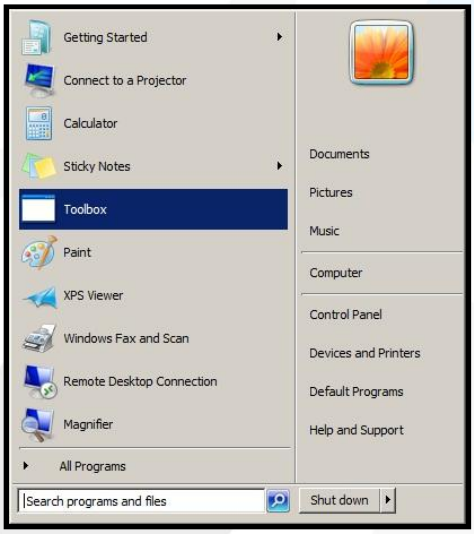
  NOTE: If the Printer is connected to a network and the Driver buttons fail to activate the cleaning process, you can perform the same functions from the Toolbox User Interface.
- **Wipe Printhead** – Wipes and cleans excess ink from the Printhead Cartridge.
- **Printhead Release** – Performs the same task as the Cover Release button on the Printer. Deprimes the ink from the system and opens the Printhead Cover for removing/installing the Printhead Cartridge.
- **System Deprime** – Drains the ink in the lines back into the Ink Tanks before servicing the Printhead Cartridge or prepping the Printer for storage or transport.

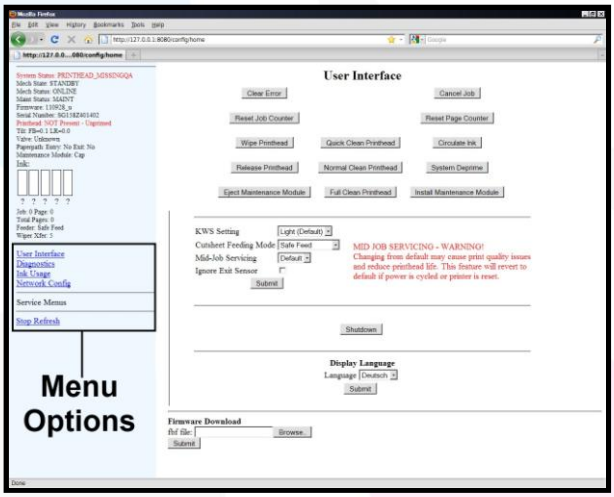
Using the Printer Toolbox

Once the Printer Driver is installed, you have access to the Printer Toolbox. The Toolbox lets you monitor ink usage, perform diagnostic checks, print reports and run maintenance tasks on the Printer from your computer.

To open the Toolbox:

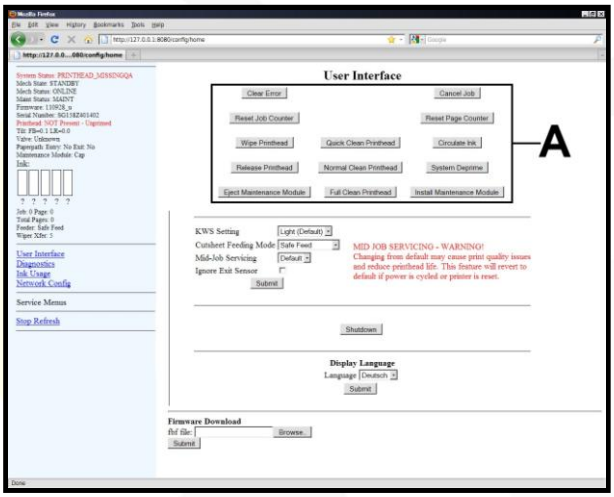
Click **Start** from the Windows taskbar, go to All Programs, open the Colordyne folder, then click on "Toolbox". When the "User Interface" window opens you will find a series of Menu Options you can click on at the lower left of the screen. You can check the Printer Status in the upper left part of the screen.





User Interface

[A] Screen Buttons: Let you perform maintenance and operating tasks. You can use the screen buttons to Clear Errors, Cancel a Job, Reset the Job Counter, and Reset the Page Counter. You can also:



Wipe Printhead – Activates the Service Station to wipe the Printhead.

Release the Printhead – Performs the same task as the Cover Release button on the Printer. Pumps the ink back into the Ink Tanks and opens the Printhead Cover to remove/install the Printhead Cartridge.

Circulate Ink – Purges air from the lines and primes the system after replacing the Ink Tanks or Printhead Cartridge.

System Deprime – Pumps the ink back into the Ink Tanks prior to replacing the Printhead Cartridge or transporting the Printer.

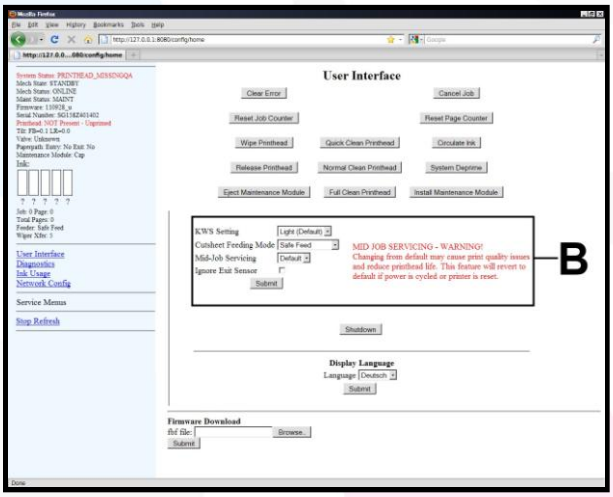
Cleaning Buttons: Provide 3 levels of cleaning for the Printhead Cartridge. These work the same way as the 3 Maintenance Level Buttons in the Printer Driver:

Quick Clean Printhead – Circulates ink, wipes and cleans the Printhead Cartridge.
Normal Clean Printhead – Runs cleaning and wiping routine twice for better flushing and cleaning.
Full Clean Printhead – Runs the cleaning routine multiple times for the most thorough flushing and cleaning of the Printhead.

Eject Service Station – Releases the Service Station for removal for cleaning, repair or replacement.

Install Service Station – Pulls the Service Station back into place after cleaning, repair or replacement.

[B] Basic Printer Settings – Lets you adjust automated service and cleaning intervals, adjust the feeder speed for a job and adjust the Printer for pre-printed media.



KWS Setting – (Keep Web Spitting) Keeps Printhead hydrated while running a job. Select from 3 settings: None, Light (default), Heavy, to determine how much ink will "spit" from the Printhead Nozzles. Set in conjunction with **"Mid Job Servicing"** which determines the frequency of the Printer stopping for self-servicing during a job.

Mid Job Servicing – Sets the frequency of automatic maintenance cycles run during a job after a set amount of media is run. Settings are: Default (14m), Level 4 (100m), Level 3 (250m), Level 2 (375m), Level 1 (500m) and Off (∞). **NOTE: Changing the setting from "Default" may cause print quality issues and reduce Printhead life.**

Cutsheet Feeding Mode – Permits you to change how the Printer feeds media depending on the type of job you are running:

Safe Feed – Leaves a larger gap between pieces to reduce overprinting onto the next piece. This setting is useful for more intricate printing jobs or jobs requiring the best print quality.

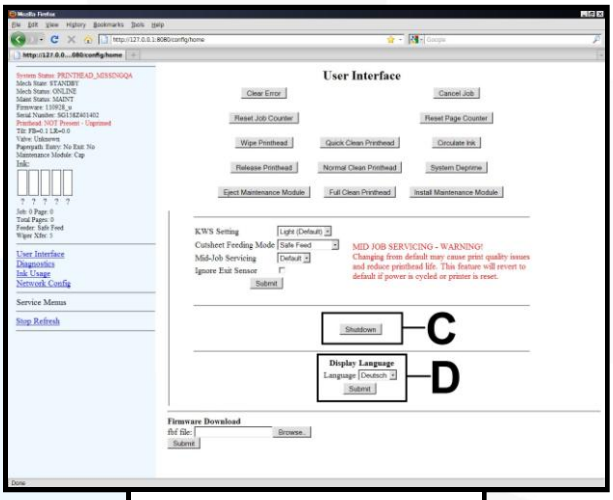
Max_Throughput – Allows fastest printing speed. The Printer works like a stream feeder. This setting is useful for simple printing jobs. **NOTE:** A few extra blank pieces may run through at the end of the job.

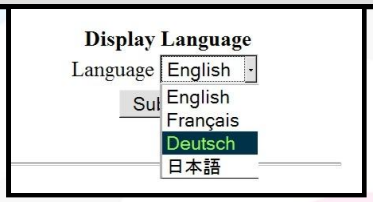
NOTE: These two settings can be changed "on the fly" without stopping the job. **Example:** While running a job in **"Max-Throughput"** you find that the media is jamming excessively due to speed. Open the Toolbox, check **"Safe Feed"** and click **"Submit"**. The Printer will automatically adjust without having to pause or stop the job.

Ignore Exit Sensor – Checking this box turns the Exit Sensor OFF. The Sensor may not "see" the trailing edge of a piece of pre-printed media if the back of that media is dark or black. (**Example:** adding addresses to a pre-printed postcard.) This may "fool" the Sensor into thinking a jam has occurred. Turning the Sensor OFF prevents these "false jams" from stopping the job.

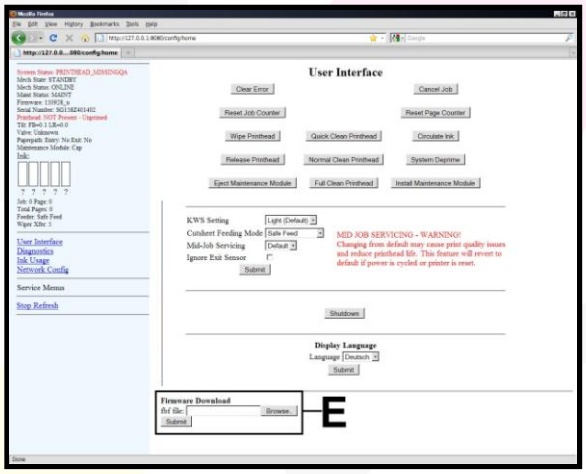
[C] Shutdown – Turns the Printer OFF from your computer.

[D] Display Language – Selects the language the Printer will operate in.





[E] Firmware Download – Get the latest version of firmware for your Printer.

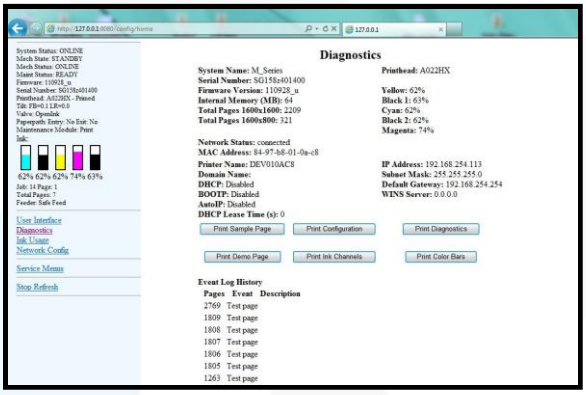


<u>How to download new firmware:</u>

1. When you are notified that new firmware is available for your Printer, download the *.fbf file and save it to your desktop.
2. Open the Toolbox. On the "User Interface" page, find **Firmware Downloads.**
3. Click the "Browse" button and find the file you just saved to your desktop.
4. Click "Submit". **DO NOT touch the Printer until the firmware is loaded!** A message will appear on your screen warning you not to unplug or shut off the Printer.
5. Once the firmware finishes loading (*about 5-10 minutes*), the Control Panel lights and Printer shuts OFF. Press the Control Panel Power button to restart the Printer and installation is complete.

Diagnostics

From this screen you can see the current status of your Printer. You can also:



Print Sample Page – Prints type and color bands to check print quality.

Print Configuration Page – Shows the current configuration of the Printer including Firmware Version, Network Connection, Printer Serial Number and more.

Print Diagnostic Page – Shows basic Printer information, memory, Network Settings, Event Log and RAM partitions.

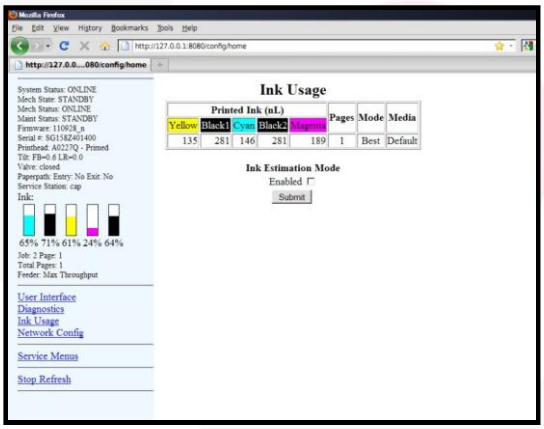
Print Demo Page – Prints a 4-color sheet.

Print Ink Channels – Prints 5 bars (1 bar from each ink tank) to show how well the Printhead Nozzles are working.

Print Color Bars Page – Prints a series of 8 color bars to show how well the Printhead is mixing colors and printing.

Ink Usage

Allows you to monitor the estimated amount of ink left in each of the five Ink Tanks. You can monitor ink consumption and schedule Tank changes (saving down-time during a print run.) **NOTE: Ink Usage only works when you start with a new Ink Tank and leave it in the Printer.**



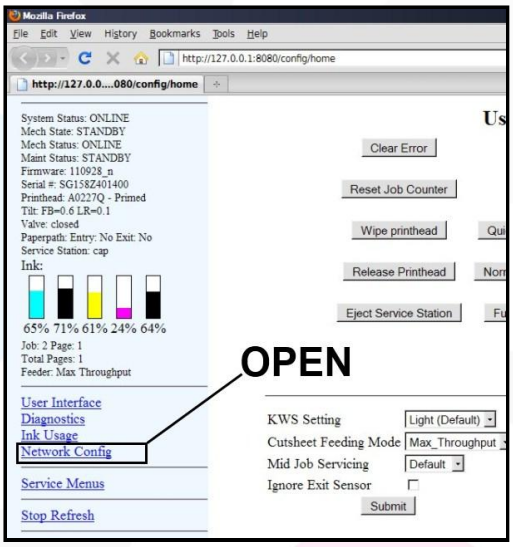
Ink Estimation Mode – Checking this box lets you predetermine how much ink a given job may use prior to printing. This can be useful for determining per piece costs. The job is sent to the Printer and loads, but does not print. Once the job is loaded, the chart shows the amount of ink (by color) that the job will use. **NOTE: The estimating process will take as long as the job would take to print (i.e., if the job would take 1 hour to print, the estimate will take 1 hour to display.)**

Network Configuration

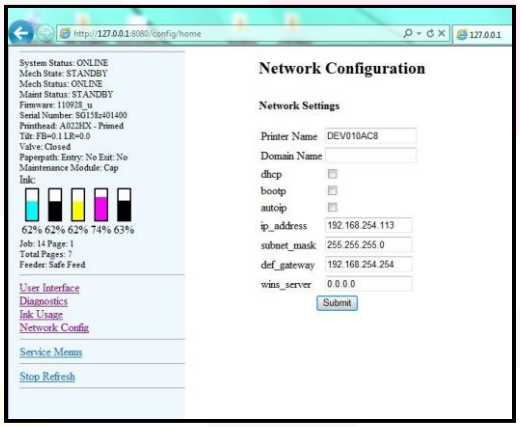
Permits you to view, enter or change settings to connect the Printer to your network.

Network Connection Set Up:

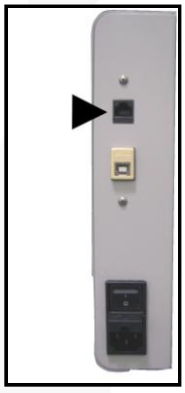
1. The Printer is still connected to the computer via the USB cable.
   To connect the Printer to a network, open the Toolbox. On the "User Interface" page, click **Network Config**.



2. The "Network Status and Configuration" page opens. Your IT person can choose the **Network Settings** box to enter the correct settings for your network.

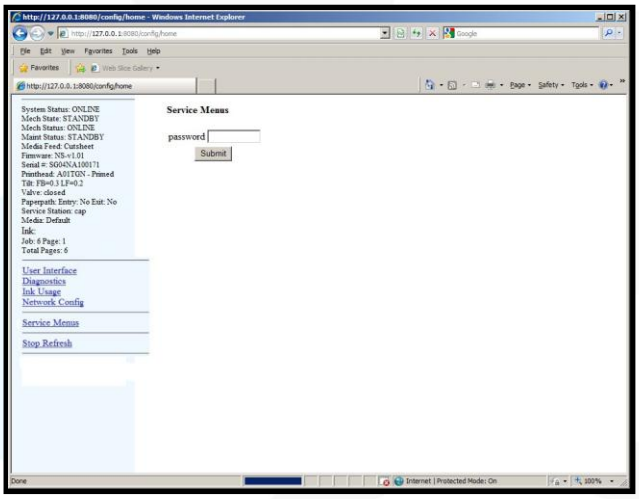


3. Connect Ethernet cable to Network Port on Rear Panel of Printer.



Service Menu

For authorized personnel only. Provides access to more advanced Printer control and maintenance menus.



NOTES

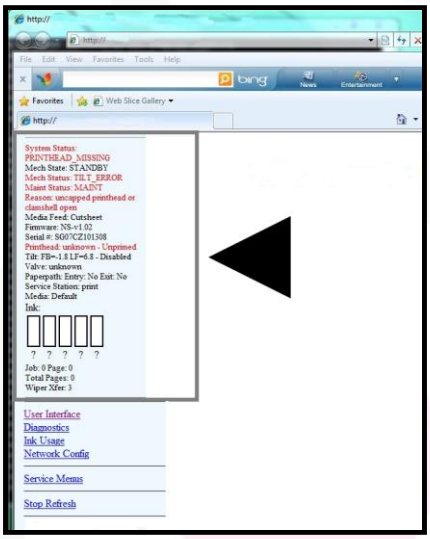
SECTION 4 – *Maintenance*

This section covers how to care for the Ink Tanks, Printhead Cartridge, Service Station, clear paper jams and replace the Sheet Separators.

Replacing the Ink Tanks

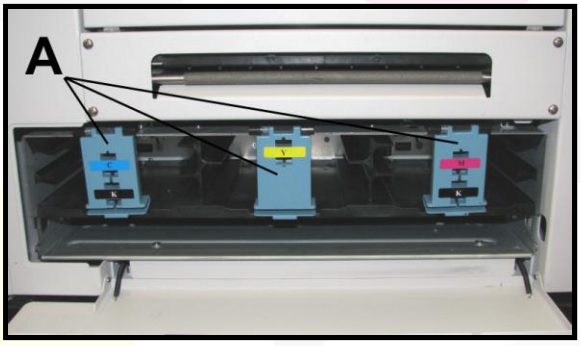
Replace the Ink Tanks when the ink runs out.

1. **Open the Printer Toolbox.** Go to All Programs, open the Colordyne Folder and open the Toolbox. On the Opening Screen you will see System Status information in the upper left corner.

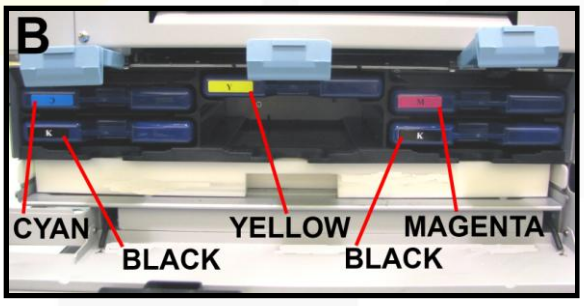


2. Open the Front Cover (*hinged at bottom*). Open the three Latches **[A]** and pull the Ink Tank(s) out of the Printer.

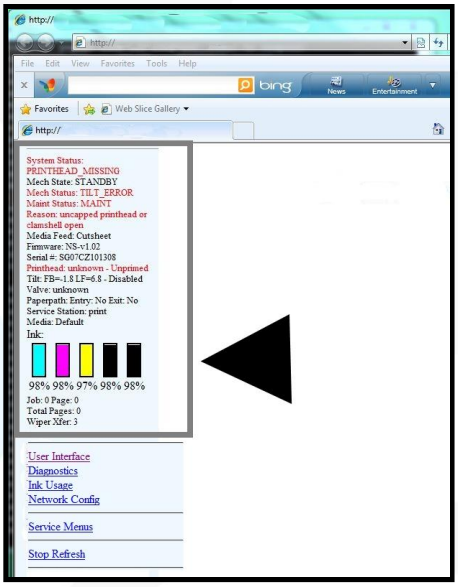
3. Remove the new Tank(s) from packaging.



4. Slide the new Tank (*label up*) into its appropriate color slot **[B]**.
INSTALLATION TIP: Make sure the Tanks seat properly. Insert the Tank into the appropriate Ink Station, then pull the Tank back about an inch and push forward firmly to insure that the Ink Nozzles penetrate the seals on the Ink Tanks.



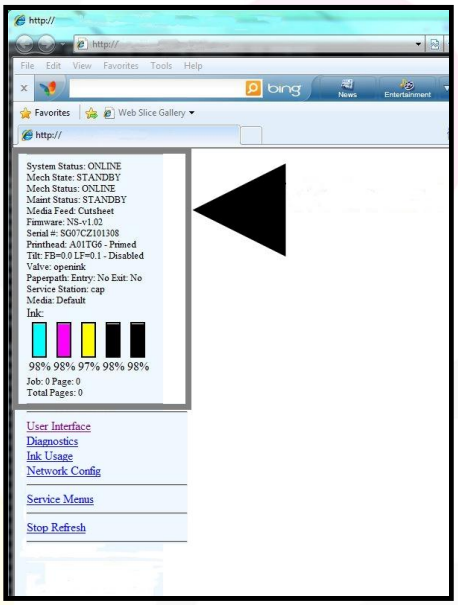
5. Watch the Toolbox screen on your computer; you will see the ink colors fill in as the Ink Tanks are installed. If the ink color does not fill in after a few seconds, reinstall the Tank.



6. Prime the system by running the Circulate Ink routine from the User Interface window in the Toolbox.

7. Watch the Toolbox screen on your computer again. Notice that some of the information is in red. As the Printer circulates ink and primes the system these fields should all turn black.

8. When the Printer stops processing and all the fields in System Status are black, the Printer is ready for use.



9. Latch the three Latches. Close the Front Cover.

WARNING!

The ink in the Ink Tanks may be harmful if swallowed. Keep new and used Tanks out or reach of children. Discard empty Tanks immediately.

Storage

New Ink Tanks should be stored in their original packaging and kept away from heat.

Opened Ink Tanks should remain in the Printer.

Disposal

The Ink Tank may be disposed of in a normal manner.

Clean up spills with soap and water. Abrasive soap is effective in cleaning ink off your hands.

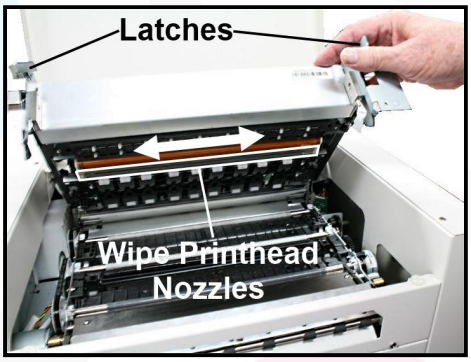
Cleaning/Replacing the Printhead Cartridge

Cleaning

The Printhead in the Colordyne 1600-S Printer is cleaned automatically each time the machine is turned ON or when the Level 1 Maintenance routine is performed by the operator. This can be found under the Service Tab, Level 1 Maintenance in the Printer Driver or the User Maintenance Levels in the Printer Toolbox. Level 2 and Level 3 Maintenance can be used to more thoroughly clean or clear the Printhead.

If running the automated Maintenance Levels doesn't help improve print quality, the Printhead Cartridge can be cleaned manually.

1. Open the Top Cover.
2. Release and lift up the two latches **at the same time** to raise the Printhead Assembly.
3. Moisten the Printhead nozzles using deionized/distilled water (reference ASTM D5127-90 Type E-II Electronic Grade Water) and a damp, lint-free cloth, wiping end to end. (Gray strip located below orange strip.) **Take care not to damage the copper contacts, the metal plate, or the gold Printhead surface.**
4. **Close and relatch the Printhead Assembly.**



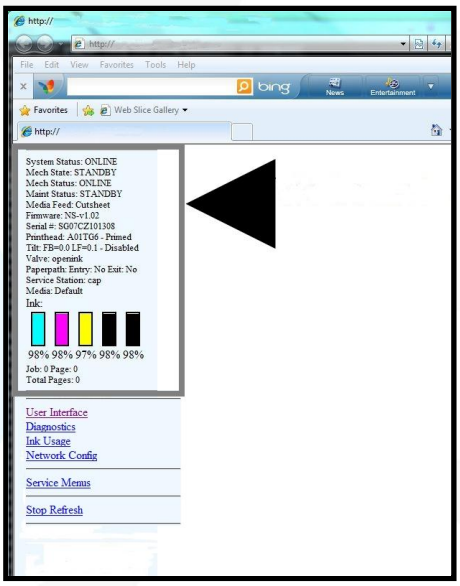
Generally, when the ink supply is adequate and the print quality remains poor, or when the automated cleaning processes or manually cleaning the Printhead has not helped the image quality, the Printhead should be replaced.

CAUTION

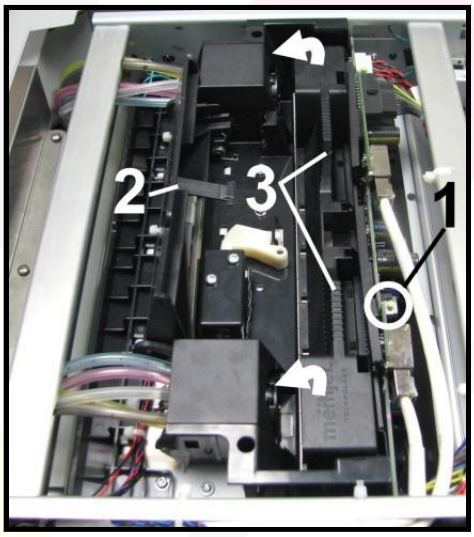
- **Use electrostatic discharge (ESD) protection when handling.**
- **Hold the Printhead Cartridge by the handles ONLY.**
- **DO NOT touch the ink couplings, nozzle surface or electrical contacts.**
- **DO NOT unpack the Printhead Cartridge until the Printer is ready for installation. Once unwrapped, delay in installing the Printhead can compromise print quality due to dehydration.**
- **DO NOT place an unwrapped Printhead on any surface before installing. Protect the Printhead from scratches, dust, fibers, dirt and other contaminants at all times.**

Replacing the Printhead Cartridge

1. **Open the Printer Toolbox.** Go to All Programs, open the Colordyne Folder and open the Toolbox. On the Opening Screen you will see information about the System Status in the upper left corner.



2. **Open the Top Cover.** Press the Printhead Cover Release Button **[1]**. The Printer pumps any ink in the system back into the Tanks. Then the Printhead Cover pops open **[2]**.
   NOTE: You can perform this same function from your computer by clicking Printhead Release from the Services tab in Print Properties or the User Interface screen in the Printer Toolbox.

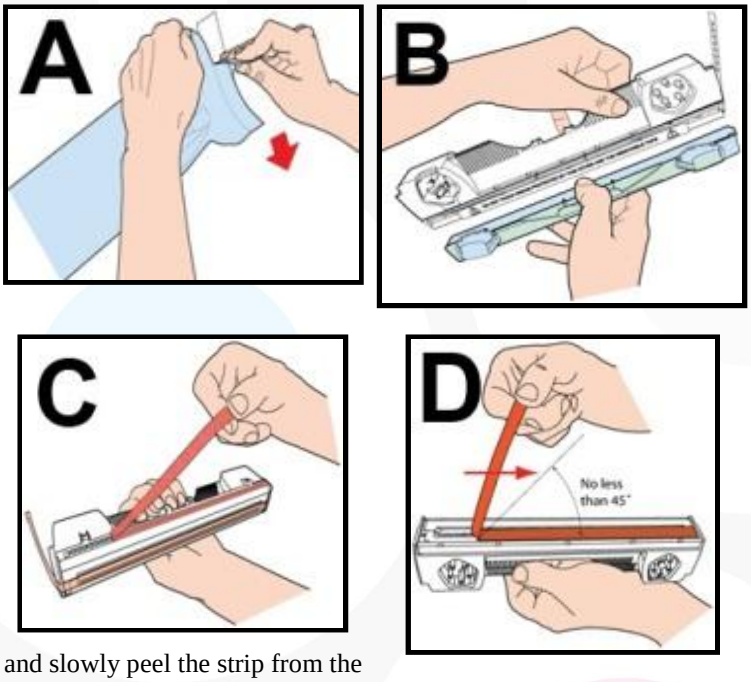


CAUTION

DO NOT PRY OR MANUALLY LIFT THE PRINTHEAD COVER OR THE COVER MAY BREAK. ONLY OPEN THE COVER USING THE RELEASE BUTTONS ON THE PRINTER OR THE PRINTHEAD RELEASE COMMANDS IN THE SERVICES TAB OR M SERIES TOOLBOX.

3. Make sure the Printhead Cover is fully opened to retract the ink lines. Remove the used Printhead Cartridge by tilting it toward the ink lines **[3]**, then carefully lifting it out of the Printhead Compartment.

4. **Carefully remove the Printhead Cartridge from the foil packaging**. [**A] Tear at notch or cut end with scissors.**
[B] Remove the protective plastic cover. Hold the Printhead by the handle and unclip the cover from the Printhead.
[C] Remove protective strip from the Printhead electrical contacts. **DO NOT allow removed strip to touch the electrical contacts.**
[D] Remove protective strip from the Printhead Nozzles. Hold the Printhead by the handle with one hand. Pull the strip tab with the other hand and slowly peel the strip from the Printhead**. DO NOT pull the strip at any angle less than 45° with the Printhead surface. DO NOT allow removed strip to touch the Printhead Nozzles.**
NOTE: Keep foil packaging to store/dispose of old Printhead Cartridge.

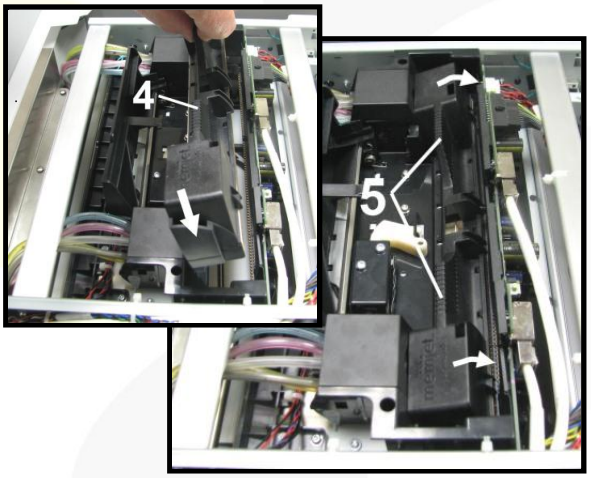


IMPORTANT! Pour just enough distilled water into the orange plastic cover you removed in Step 4B to moisten the bottom strip. Carefully reinstall the Printhead back into the plastic cover. Set the Printhead aside for 15 to 20 minutes. This rehydrates Printhead and allows easier priming once it is installed in the Printer.

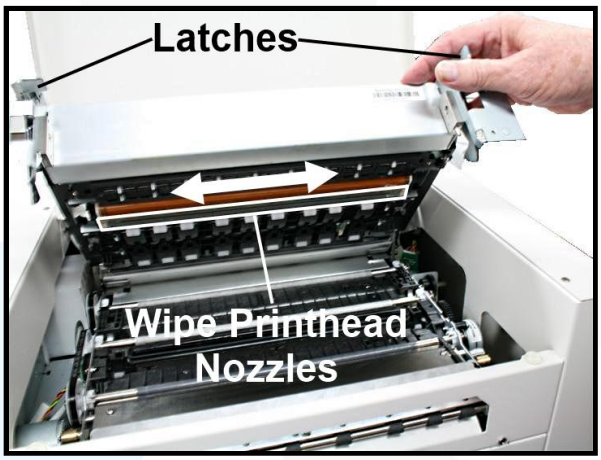
WARNING!

TO AVOID ELECTRICAL SHOCK OR SHORTING:
Before installing Printhead, make sure nozzles are hydrated and contacts are DRY!

5. Carefully insert the Cartridge into the compartment at an angle **[4]**, with the Printhead surface facing down and the Ink Nozzles facing the ink hoses. Once it is seated, gently tilt the Cartridge back until it snaps into an upright position **[5]**. **DO NOT FORCE the Cartridge into position.**



6. **Wet the Printhead Surface. This ensures that the Printhead will prime correctly.** Open the Top Cover. Release and lift up the two latches **at the same time** to raise the Printhead Assembly. **Moisten the Printhead nozzles using distilled water and a damp, lint-free cloth, wiping end to end. (Gray strip located below orange strip.) Close and relatch the Printhead Assembly.**



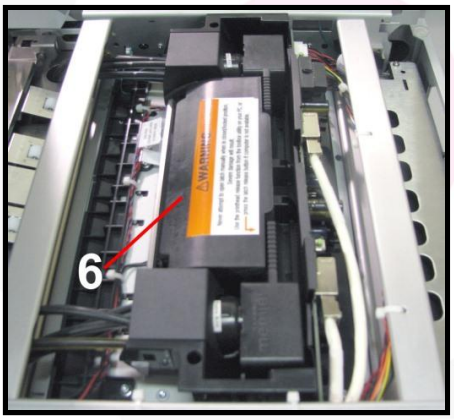
CAUTION

OPERATE AND HOLD ONTO BOTH LATCHES WHEN OPENING AND CLOSING THE PRINTHEAD ASSEMBLY TO PREVENT DAMAGE.

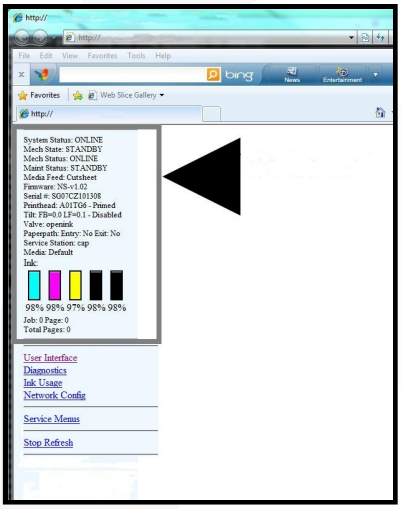
DO NOT ALLOW THE ASSEMBLY DROP BY ITSELF WHEN CLOSING.

TO PREVENT DAMAGE TO THE INK LINES, A STOP LIMITS RAISING THE ASSEMBLY MORE THAN 60°.

7. Close the Printhead Cover **[6]**. The Printer will automatically run a start-up routine and prime the ink into the Printhead. This may take a few minutes. Make sure that ink is flowing through the hoses. If air bubbles appear you may have to tap the lines or run the Circulate Ink routine to clear them.



8. Watch the Toolbox screen on your computer again. Notice that some of the information is in red. As the Printer circulates ink and primes the system these fields should all turn black.
9. When the Printer stops processing and all the fields in System Status are black, the Printer is ready for use. Close the Top Cover.



IMPORTANT

CHECK INK TANKS. PRINTER MAY NOT FULLY REPRIME IF TANKS ARE LESS THAN 1/3 FULL.

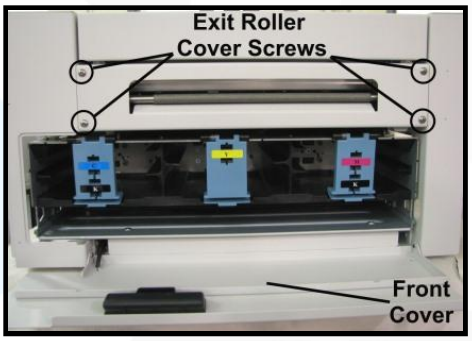
NOTE: The Printer may take up to 12 minutes to set itself up during initial startup. This is normal. The machine will emit a number of chirps, whirrs and other noises as it circulates ink and runs systems.

Replacing the Service Station

The Service Station is designed provide a long service life. However, should it need to be replaced, follow these steps. The Service Station is located above the Ink Tank Station.

1. **Open the Front Cover (*hinged at bottom*).** Remove the Exit Roller Cover by removing the four (4) screws. Open the Top Cover.

   Release the two latches and open the Clamshell Cover. The Service Station will not fully eject with the Cover Closed.



2. Open the Printer Toolbox. In the User Interface window, press the **Eject Maintenance Station** button. Once the Printer pushes the Service Station out, turn the Printer OFF.

TURN PRINTER POWER OFF.

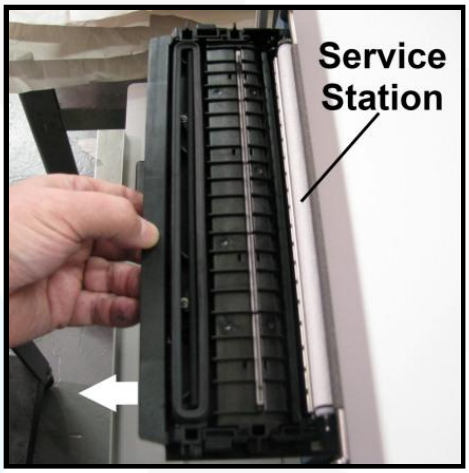
CAUTION

WHENEVER POWERING DOWN UNIT, ALWAYS:

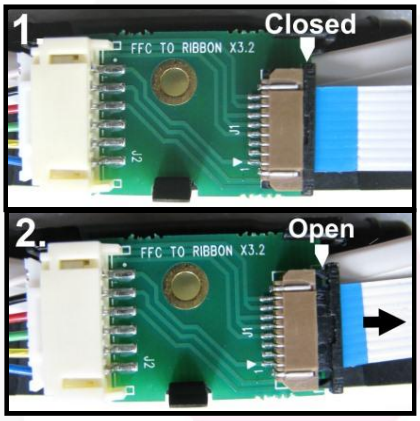
1. **PRESS THE POWER BUTTON ON THE CONTROL PANEL.**
2. **WAIT FOR THE PRINTER TO STOP PROCESSING.**
3. **THEN PRESS THE MAIN POWER SWITCH ON THE REAR PANEL.**

3. Slide the Service Station out of the Service Station port**. NOTE: Do not pull Station all the way out until you disconnect the Ribbon Cable.**

   NOTE: It is a good idea to place an absorbent towel under the Service Station as you remove it to prevent any drips or leaks.



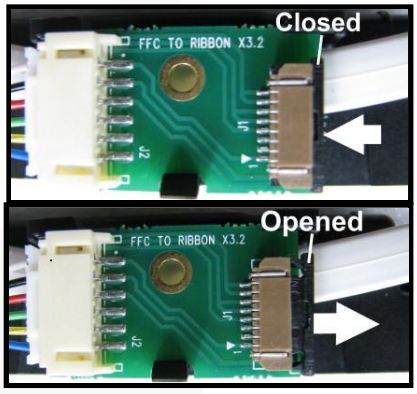
4. **Disconnect the Ribbon Cable.** Slide the Latch open on the Service Station Circuit Board to release the Ribbon Cable. **Remove the Service Station.**



5. Carefully unwrap the new Service Station. **NOTE: Loose parts may fall out. Keep Roller side facing up when removing packaging.**

CAUTION
MAKE SURE THE LATCHES ON THE WIPER ROLLER ARE FULLY LOCKED BEFORE INSTALLING THE SERVICE STATION.

6. **Slide the Latch open on the Service Station Circuit Board.**



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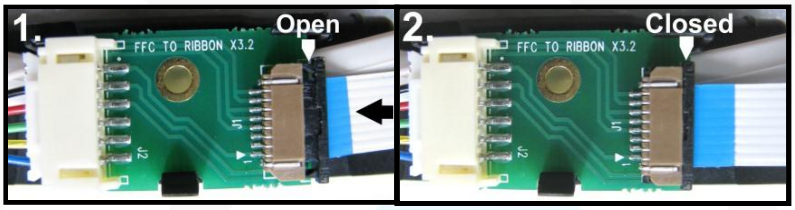
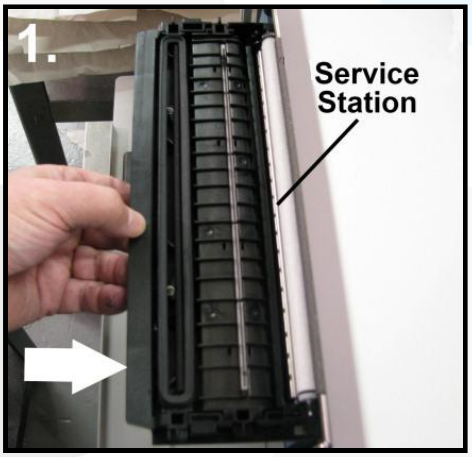
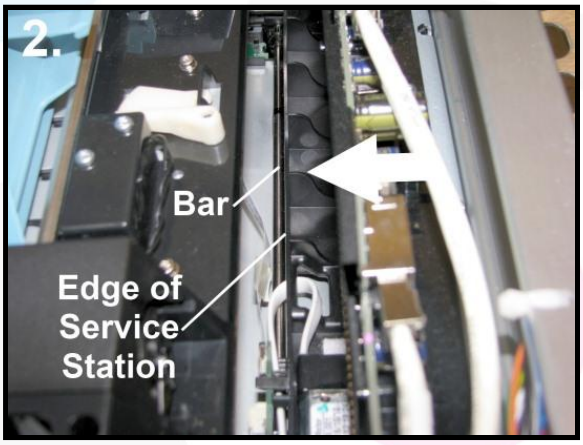
7. **[1]** Plug the Ribbon Connector (*blue side up*) into the space under the Latch.
[2] Close the Latch.

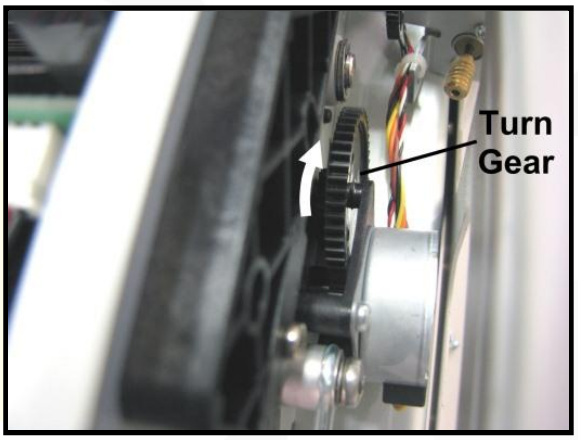


8. **[1]** Slide the Service Station into the Service Station port until it touches the bar. Align with tracks along sides and Guide on Service Station dock floor.
[2] Look down through the Top Cover to make sure Service Station is aligned with the bar.
IMPORTANT! Service Station must be perfectly aligned with bar to prevent misalignment and operating problems.





9. **GENTLY** push the Service Station while turning the large Gear on right side of Print Engine clockwise. Gear should engage gear on Service Station Roller and pull it in. Once the Service Station starts moving, stop turning the gear. Powering up the unit will pull the Service Station the rest of the way in. **NOTE:** Make sure the wick hanging below the Service Station is inside the plastic trough inside the Ink Tank Station to prevent ink seepage.
NOTE: Service Station should operate smoothly. If it binds or makes irregular noises, reinstall the Service Station. Lubricate Side Tracks and Guide if necessary.



10. **Close Clamshell Cover. Replace the Exit Roller Door and Close the Front Cover.**

CAUTION
OPERATE AND HOLD ONTO BOTH LATCHES WHEN OPENING AND CLOSING THE CLAMSHELL COVER TO PREVENT DAMAGE. DO NOT ALLOW THE ASSEMBLY TO DROP BY ITSELF WHEN CLOSING.

Replacing the Ink Waste Tray

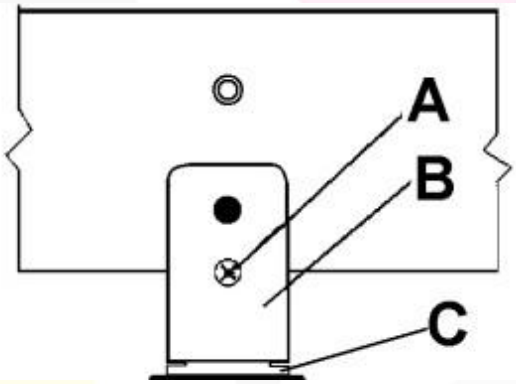
The Ink Waste Tray soaks up any excess ink that may drip from the Print Engine during operation. After a period of time it may become saturated and need replacement.

1. Open Ink Tank Door.
2. Push in on the Tabs to release the Ink Waste Tray and remove it from unit.
3. Replace with a new Ink Waste Tray.

Replacing the Sheet Separators

The Sheet Separators insure separation of the pieces as they are being fed. If you experience double sheet feeding and cannot adjust the Separators to prevent it, replace the Separators. Replacing the Sheet Separators is not difficult:

1. Turn Printer OFF and unplug it and from the power source.
2. Release the Separator by loosening the Locking Knob and moving the Paper Side Guides to their maximum opened position.
3. Lower the Separators so that they touch the Feed Roller.
4. Remove the screw **[A]** and the Separator Cover **[B]**. Then remove the Separator **[C]** by prying it out of the Holder.
5. Install a new Separator in place and replace the Separator Support and screw.



Jams in the Colordyne 1600-S Printer

If a jam occurs, **STOP the Printer.**

Some possible causes for jamming are:

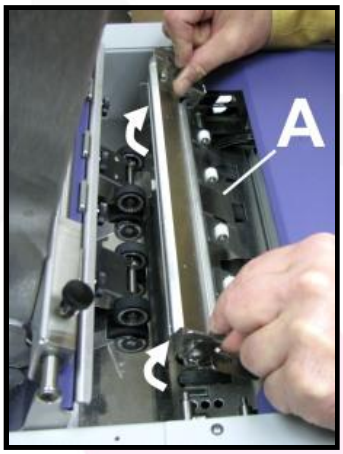
1. Feeding more than one piece of media (double-feeding).
2. Damaged media, such as dog-eared (turned down corners).
3. Media that is not stiff enough may not be usable. Media that meets Postal stiffness requirements for automated feeding is acceptable in the Colordyne 1600S.
4. Envelopes that are caught under the flap of another envelope or stick to one another.

Removing Jammed Media

Clearing a jam depends on where the jam occurred.

Feed Section: Clear by pulling the paper out of the Separators.

Antistatic Brush Assembly: If necessary, remove the Antistatic Brush Assembly **[A]** to access jammed material. Unlatch the two latches (*one on either side of the Assembly*) and lift the Assembly off the four mounting pins as shown. **Do not bend the brushes!** Clear the jam, then carefully reinstall the Brush Assembly.

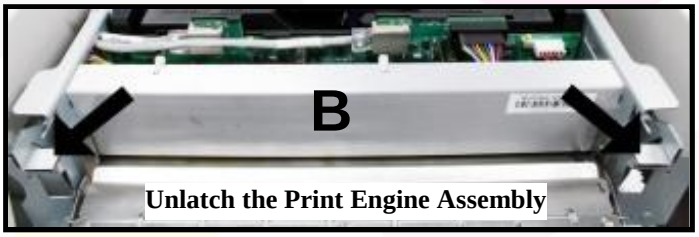


CAUTION

DO NOT BEND, PINCH OR CUT THE INK LINES LOCATED DIRECTLY IN FRONT OF THE BRUSH ASSEMBLY.

NOTE: Make sure Brush Assembly is correctly reinstalled and aligned before starting to print. Assembly should sit flat on transport area surface.

Print Engine Area: Open the Top Cover. Release and lift up the two latches **[B]** (*one on each side of the Printhead Assembly*) **at the same time** to raise the Printhead Assembly **[C]**. Clear the jam, then carefully lower and relatch the Printhead Assembly. Close the Top Cover.

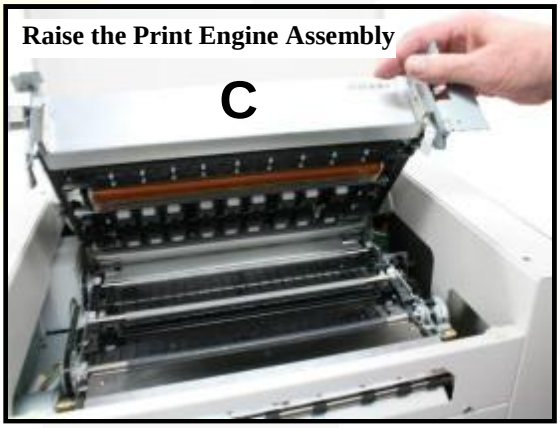


Unlatch the Print Engine Assembly

CAUTION

OPERATE AND HOLD ONTO BOTH LATCHES WHEN OPENING AND CLOSING THE PRINTHEAD ASSEMBLY TO PREVENT DAMAGE. DO NOT ALLOW THE ASSEMBLY TO DROP BY ITSELF WHEN CLOSING.

Raise the Print Engine Assembly



Misfeeds

Misfeeds can be corrected by readjusting the Sheet Separators to the media or replacing them. See “Replacing the Sheet Separators” on previous page.

Cleaning

WARNING!

THE PRINTER IS A PRECISION MACHINE. CLEAN REGULARLY TO INSURE MANY YEARS OF SERVICE. BEFORE PERFORMING ANY MAINTENANCE, DISCONNECT THE MACHINE FROM ITS POWER SOURCE!

DO NOT REMOVE SIDE COVERS! HIGH VOLTAGES PRESENT.

Clean the Printer regularly to remove accumulated paper dust and ink. Depending on the types of media that are run, paper dust may accumulate inside the Printer and on the Transport.

1. Turn the Printer OFF and unplug it from the power receptacle. Then open or remove the Covers.
2. **Interior:** Use a vacuum with a soft brush attachment or a can of compressed air to help loosen dust particles. **NOTE: Be careful around ink tray and capping station** in the Print Engine area as accumulated ink may splash onto other parts of the printer. Take care not to damage the PC Boards or electrical wiring.
3. **Exterior:** Wipe clean with a lint-free cloth using any standard nonabrasive household cleaner that does not contain plastic-harming solvents.

CAUTION

NEVER SPRAY OR POUR CLEANERS DIRECTLY ON OR INTO THE PRINTER. EXCESS LIQUID COULD HARM ELECTRONIC PARTS. DAMPEN A LINT-FREE CLOTH WITH THE CLEANER AND APPLY IT TO THE PARTS TO BE CLEANED.

Feed Rollers and Forwarding Rollers

The Feed and Forwarding Rollers can become glazed with paper lint and ink from the media. They should be regularly cleaned with a mild abrasive household cleaner on a damp lint-free cloth.

NOTE: Avoid using solvents on the Rubber Rollers.

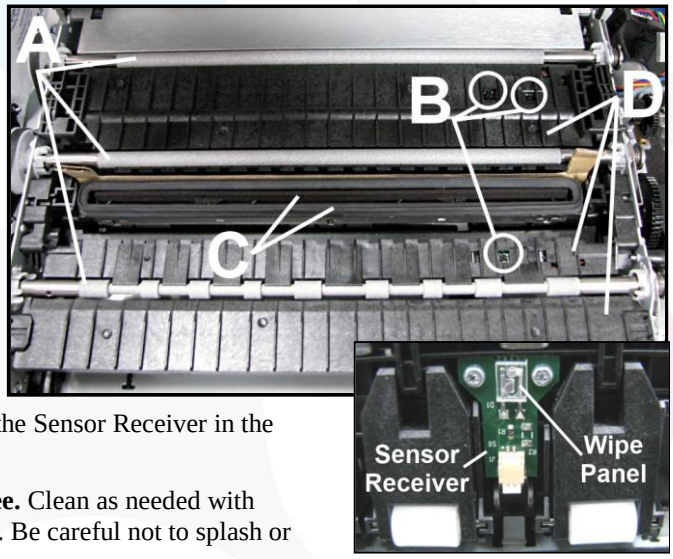
Print Engine

Areas in the Print Engine can become glazed with a buildup of dust, paper lint and accumulated ink and have to be cleaned regularly. Open the Top Cover. Open the Clamshell Assembly by releasing the two latches. Use a vacuum to pick up any loose debris.
NOTE: Be careful around Ink Tray and Capping Station in the Print Engine area as accumulated ink may splash onto other parts of the Printer. Take care not to damage the PC Boards or electrical wiring.

CAUTION

USE ONLY DEIONIZED/DISTILLED WATER TO CLEAN PRINT ENGINE COMPONENTS. AVOID CONTAMINATING THE PRINTHEAD WITH CLEANERS, LUBRICANTS OR OTHER CHEMICALS.

[A] Grit Rollers: Clean as needed by moistening a small hard-bristled brush or toothbrush with distilled water. **DO NOT** use anything other than distilled water to clean the Rollers.



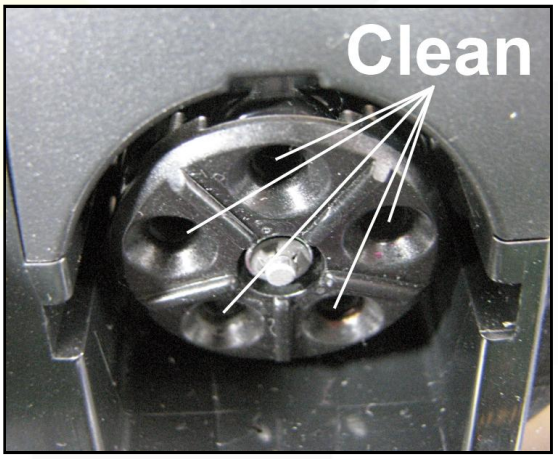
[B] Media Sensors: Paper lint and dust may build up on the Media Sensors. Use a can of compressed air or a damp (not wet) foam or lint-free cotton swab to gently swab the Sensors. Take care not to drip water into the Circuit Boards. Use a clean, dry swab to dab surfaces dry. Remember to wipe the clear panel over the Sensor Receiver in the upper Printhead Assembly (*see inset*).

[C] Capping Station Seal and Squeegee. Clean as needed with distilled water on a damp, lint-free cloth. Be careful not to splash or drip ink on other parts of the Printer.

[D] Printing Platen. Wipe with distilled water on a damp, lint-free cloth. Pat dry with a lint-free cloth.

Cleaning the Ink Revolver Couplings

1. **First Deprime the system and remove the Printhead Cartridge.**
2. Moisten a foam swab in distilled water.
3. Insert the swab into one of the ink channels and rotate the swab to clean the chamber.
4. Use a new swab for each of the remaining ink channels until all 10 openings are clean. (5 on each side.)

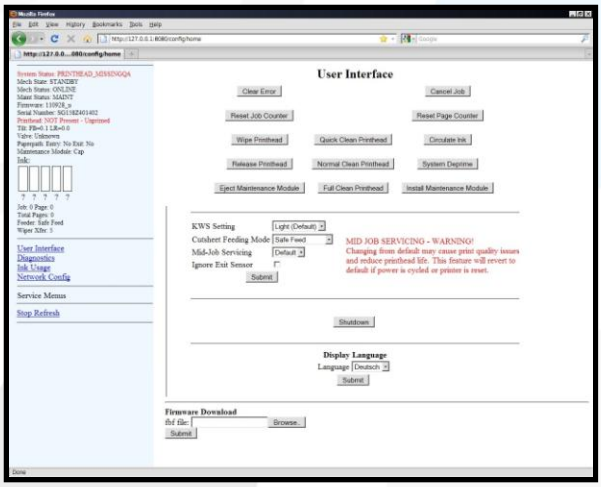


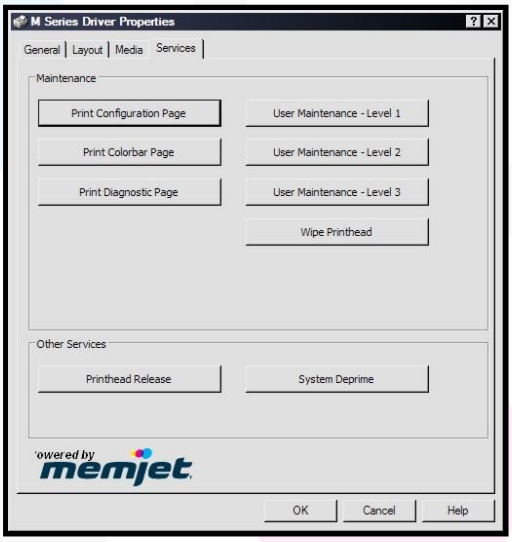
Shipping or Transporting the 1600-S Printer

If you have to ship or transport the Printer for any reason, the unit will have to be prepared. Once the Printer is prepared, carefully package the Printer, Printhead Cartridge, Service Station and Ink Tanks in their original packaging.

Deprime the System

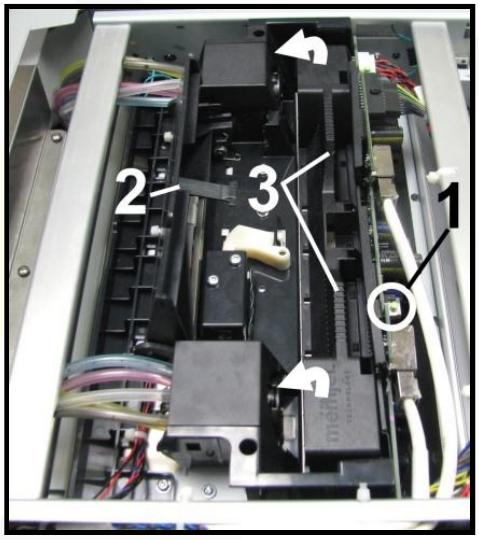
1. This forces all of the ink to return to the Ink Tanks. You can do this by accessing the Toolbox User Interface Screen and pressing "System Deprime" or by using the Service Tab in the Printer Driver and pressing "System Deprime".





Remove the Printhead Cartridge

1. **Open the Top Cover.** Press the Printhead Cover Release Button **[1]**. The Printer pumps any ink in the system back into the Tanks. Then the Printhead Cover pops open **[2]**.
   NOTE: You can perform this same function from your computer by clicking Printhead Release from the Services tab in Print Properties or the User Interface screen in the Printer Toolbox.



CAUTION

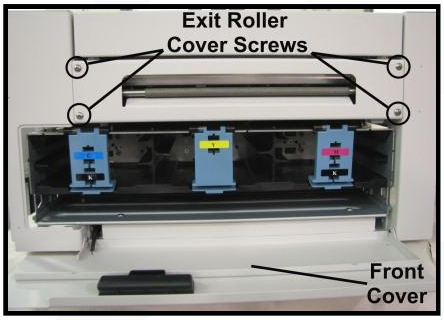
DO NOT PRY OR MANUALLY LIFT THE PRINTHEAD COVER OR THE COVER MAY BREAK. ONLY OPEN THE COVER USING THE RELEASE BUTTONS ON THE PRINTER OR THE PRINTHEAD RELEASE COMMANDS IN THE SERVICES TAB OR M SERIES TOOLBOX.

2. Make sure the Printhead Cover is fully opened to retract the ink lines. Remove the Printhead Cartridge by tilting it toward the ink lines **[3]**, then carefully lift it out of the Printhead Compartment.
3. Carefully pack the Cartridge using the original packaging.

Remove the Service Station

1. **Open the Front Cover (hinged at bottom).** Remove the Exit Roller Cover by removing the four (4) screws. Open the Top Cover.

   Release the two latches and open the Clamshell Cover. The Service Station will not fully eject with the Cover Closed.



2. Open the Printer Toolbox. In the User Interface window, press the **Eject Maintenance Station** button. Once the Printer pushes the Service Station out, turn the Printer OFF.

TURN PRINTER POWER OFF.

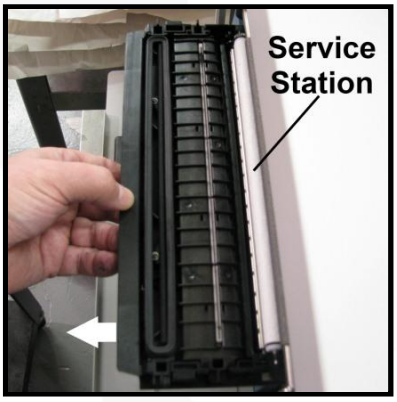
CAUTION

WHENEVER POWERING DOWN UNIT, ALWAYS:

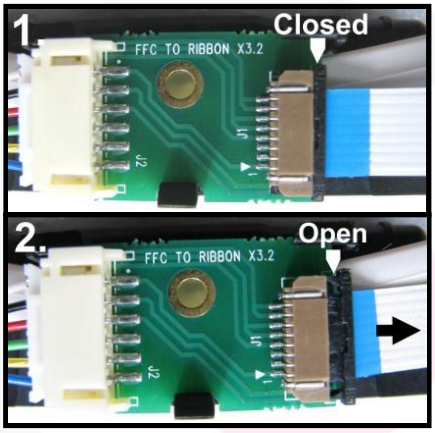
1. **PRESS THE POWER BUTTON ON THE CONTROL PANEL.**
2. **WAIT FOR THE PRINTER TO STOP PROCESSING.**
3. **THEN PRESS THE MAIN POWER SWITCH ON THE REAR PANEL.**

3. Slide the Service Station out of the Service Station port**. NOTE: Do not pull Station all the way out until you disconnect the Ribbon Cable.**

   NOTE: It is a good idea to place an absorbent towel under the Service Station as you remove it to prevent any drips or leaks.

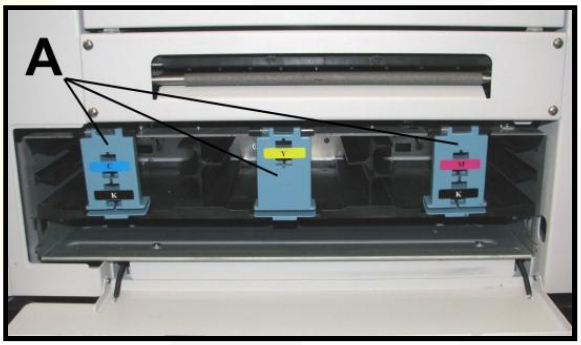


4. **Disconnect the Ribbon Cable.** Slide the Latch open on the Service Station Circuit Board to release the Ribbon Cable. **Remove the Service Station.**



Remove the Ink Tanks

1. Open the Front Cover (*hinged at bottom*). Unlatch the three Locks **[A]** and pull the Ink Tank(s) out of the Printer.



2. Carefully package the Ink Tanks in the original packaging.
   IMPORTANT: Make sure the ink seals on the Ink Tanks are facing up to prevent leakage.

3. Pack the Ink Tank bays with absorbent towels to catch any ink drips or spills.

SECTION 5 – *Troubleshooting Guide*

The following troubleshooting guides are provided to assist you in solving any problems that might occur with the Colordyne 1600-S Printer. We have tried to make them as complete as possible. The best advice we can offer is to make sure that the system is set up properly, plugged in, and that it has an adequate supply of ink before attempting to troubleshoot any problem.

The Memjet Printhead

CONDITION	PROBLEM	SOLUTION
Missing parts of letters or text.	Air and bubbles blocking Nozzles.	Clean the Printhead using recirculation, priming or cycles of depriming and priming found in the **Maintenance** section of the Driver. Rehydrate the Printhead using distilled water and a wet, clean, lint-free cloth. Bubbles often disappear with Printer use.
Print shows regularly missing or misdirected nozzles or ink color mixing.	Debris on Printhead.	Perform the startup routine. Clean the Printhead using one of the Maintenance Levels in the Driver. Wipe the Printhead manually with distilled water and a wet, clean, lint-free cloth. Replace the Printhead.
Ink mixing -- Mixed or muddy colors.	**Causes:** Ink flooding, air in the Printhead or a dirty Printhead.	Clean the Printhead using one of the Maintenance Levels in the Driver. Wipe the Printhead manually with distilled water and a wet, clean, lint-free cloth.
No print or crisp blocks of missing drops.	Electrical failure or poor electrical connection.	Reseat the Printhead. Replace the Printhead.
System will not reprime ink after replacing Printhead Cartridge	Printhead nozzles dry. Ink Tanks may be 1/3 full or less.	Wipe the Printhead manually with distilled water and a wet, clean, lint-free cloth. Replace Ink Tanks.

WARNING!

DO NOT REMOVE THE SIDE COVERS OF THE PRINTER!
THERE ARE HIGH VOLTAGES PRESENT BEHIND THE COVERS!

The Printer

CONDITION	PROBLEM	SOLUTION
Extra lines; losing data	Database problem.	Check data in database program.
Improper output (address information out of order, misfeeding, etc.)	Wrong interface settings. Static electricity. Dirty Media Sensor.	Check software or database on PC. Close the software, then turn Printer OFF and ON. Clean Media Sensor.
Media jams	Double feeding. Media is curled or bent. Media is too thin.	Adjust Sheet Separators on Feeder. Uncurl media. Minimum thickness for media is 0.004".
No communication	Improper cabling / connector. Unit not receiving power.	Use proper USB cable (*see Operator Manual*.) Check plug connections, ON/OFF button and fuse on back panel.
Print too light or missing character dots	Clogged or dirty Printhead. Running out of ink.	Check the Printhead. Check Ink Tanks.
Blurry address 	Image is not sharp.	Clean Printhead using one of the Maintenance Levels. (*See Service Tab in the Print Driver*.) Clean the Printhead manually using distilled water and a wet, clean, lint-free cloth.
Feeding problems	Double sheets. Misfeeds.	Adjust the Sheet Separators.
Job is sent to print but does not print.	Printer not turned on. Printer not connected to computer. Media Sensor is covered in Print Engine.	Check that Printer is ON. Connect printer cable to computer and resend the job. Open Print Engine and remove media.

Appendix A – Colordyne 1600-S Specifications

PRINT RESOLUTION	**Best:** 1600 x 1600 DPI **Normal:** 1600 x 800 DPI
SPEED (color or mono)	Up to 3600 letter size pages or 9000 envelopes per hour
MEDIA SIZE	**Minimum:** 3" x 4.2" (76 mm x 107 mm) **Maximum:** 9.5" x 17" (241 mm x 431 mm)
PRINT AREA	8.5" x 17" (215 mm x 431 mm)
MEDIA THICKNESS	**Minimum:** 0.004" (0.102 mm) **Maximum:** 0.020" (0.5 mm)
INK	Water-based ink. 5 individual 250 ml ink tanks (CMYKK)
PRINT CARTRIDGE	Memjet®
INTERFACE	USB
DIMENSIONS	20" W x 24" L x 17-1/4" H (50.8 cm x 61 cm x 44.0 cm)
WEIGHT	75 lbs. (34 kg)
DUTY CYCLE	500,000 #10 Envelopes per month

All Specifications Subject To Change Without Notice

Appendix B – Supplies and Optional Hardware

The following supply items and optional hardware are available from your Colordyne Distributor:

Supplies

Black Ink Tank

Cyan Ink Tank

Magenta Ink Tank

Yellow Ink Tank

Optional Hardware

Conveyor /Stacker

Drop Tray

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PRINTER MAINTENANCE SCHEDULE

General, periodic maintenance is needed to keep the Printer in good working order. Many tasks can be performed by operators with basic supplies, no special tools needed. Other tasks should only be performed by trained service personnel. **NOTE:** High volume usage may require more frequent maintenance.

Maintenance Supplies & Equipment: Flashlight, small telescoping mirror, hard-bristled toothbrush or equivalent, powder-free nitrile gloves, protective clothing and eyewear, small flathead screwdriver, tweezers, vacuum with wand, deionized distilled water, Super Lube 21030 synthetic grease (or equivalent), Loctite 38650 copper anti-seize (or equivalent), can of compressed air, foam or lint-free cotton swabs, lint-free wipes, disposable shop towels.

COMPONENTS/TASKS	MAINTENANCE TYPE				
	DAILY	BI-WEEKLY	MONTHLY	YEARLY	AS NEEDED
PERFORMED BY OPERATOR					
Printhead (Manual Wiping)					WIPE
Ink Revolver Couplings and Connections: Inspection/Cleaning					EVERY PRINTHEAD REMOVAL
Residue and Debris Removal	CLEAN	CLEAN	CLEAN	CLEAN	CLEAN
Optical Sensors (Media Path)		CLEAN	CLEAN	CLEAN	
Wiper Assembly: Inspection		INSPECT	INSPECT	INSPECT	
Grit Rollers (Media Path)			INSPECT	CLEAN	
Ink Tank Latches/Ink Bay				INSPECT	
Ink Tubing, Couplings, Components			INSPECT	INSPECT	
Ink Waste Tray			INSPECT	INSPECT	REPLACE
Lift Motor Gear			INSPECT	INSPECT	
PERFORMED BY SERVICE TECHNICIAN					
Lubrication				APPLY	
Pen Driver PCA Contacts: Cleaning					EVERY PRINTHEAD REMOVAL
Moving Parts/Motor				TEST	
Service Station Sled Assembly				CLEAN	
Wiper Assembly: Cleaning				CLEAN	

WARNING!

ALWAYS POWER DOWN THE PRINTER BEFORE CONNECTING OR DISCONNECTING ANY WIRING HARNESSES OR CABLE CONNECTIONS TO AVOID SERIOUS SHOCK OR INJURY.

CAUTION

- **ALWAYS USE APPROPRIATE PERSONAL PROTECTION EQUIPMENT (PPE).**
- **USE ELECTROSTATIC DISCHARGE (ESD) PROTECTION WHEN MAINTAINING EQUIPMENT.**
- **DISPOSE OF ALL MAINTENANCE WASTE IN ACCORDANCE WITH LOCAL REGULATIONS.**

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NOTES

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